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No. 3

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THE HISTORY OF

THE CITY OF BOSTON

FROM THE FIRST SETTLEMENT TO THE PRESENT TIME

BY SAMUEL JOHNSON

IN TWO VOLUMES

VOLUME THE FIRST

FROM THE FIRST SETTLEMENT TO THE PRESENT TIME

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EDITOR'S NOTE

Sociometric methods have become important devices of Rural Sociology. Research work in sociometry is being carried on at the Land Grant Colleges in the Agricultural Experiment Stations and the agricultural extension services of several states are using the procedures of sociometric testing and sociodrama. Many of the best contributions in Sociometry have come from rural sociologists in the United States Department of Agriculture.

It is fitting that Charles P. Loomis should edit our special issue on rural life, not only because he is now President of the Rural Sociological Society, but also because he was the first rural sociologist to use sociometric techniques. He has also introduced sociometry into applied anthropology through his work in the Office of Foreign Agricultural Relations in Latin America and Europe and now as President of the Society for Applied Anthropology he and his associates are developing special work in this field, particularly at the Inter-American Institute of Agricultural Sciences in Costa Rica, where he is in charge of sociological and anthropological research.

J. L. MORENO

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A TYPOLOGICAL ANALYSIS OF SOCIAL SYSTEMS

DEMONSTRATION OF A MEANS FOR INTEGRATING SOCIOMETRY, SOCIOLOGY, AND CULTURAL ANTHROPOLOGY

CHARLES P. LOOMIS AND J. ALLAN BEEGLE

Michigan State College

I.

According to our conceptual scheme, the subject matter for sociology and cultural anthropology is human culture, personality and interaction. Although these may be studied from many points of view, we choose to make the various types of social systems our chief concern. As the significant unit¹ of social systems we accept Sorokin's "meaningful interaction of two or more human individuals" and his requirement that interaction be an event "by which one party tangible influences the overt actions or the state of mind of the other." Social systems are made up of social interactions and the cultural factors which structure these interactions. The most important and basic social systems are what Moreno calls social atoms; i.e., "an individual and the people (near or distant) to whom he is emotionally related at the time." Moreno has shown "that these configurations function as if they would be one unit." Concrete examples of social systems are, for example, A Combat Fighter Squadron, the El Cerrito Ditch Association, or the International Harvester Company.

What do these have in common? What instructions should be given a stranger so that he might identify these or other social systems? What are the significant differences in social systems? Volumes can be written in answer to these questions, depending upon the point of view from which they are approached. However, if we attempt to simplify our answers and point to the key elements of concern to the sociologist and anthropologist, or to others who are interested in understanding personality formation as well as interaction and culture, we can abstract from the whole certain elements.

Elements of Social Systems.—To begin with, a study of interpersonal interaction would indicate that interaction of persons within the system,

¹P. A. Sorokin, *Society, Culture, and Personality: Their Structure and Dynamics*, New York: Harper and Brothers, 1947, p. 40. J. L. Moreno, "The Social Atom and Death," *SOCIOMETRY*, Vol. 10, No. 1, Feb. 1947, "Organization of the Social Atom," *SOCIOMETRY*, Vol. 10, No. 5, August 1947, and *Who Shall Survive?* New York; Beacon House, 1934.

thought of as a "going concern" is greater than the interaction between those within and those outside of the system. A child who sees a football squad running signals soon notes the interaction pattern sufficiently to distinguish between team members and spectators or others who may be near. Furthermore, he will be able to readily differentiate football teams from other teams and groups. The child learns the team's *ends* or *objectives*—what the team is trying to do. At a very early age the child learns that different players on the team do different things and are designated by the positions they play. These positions we call *roles*, or what is expected of one in a given situation. The child also learns that some players are considered better than others. This basis for rating players, which has its roots in a general consensus as to what qualities are to be rated high and what low, gives the players a different *status*, a concept which is useful in understanding social systems. It will also be perceived, particularly if the signals are called aloud, that the one player who calls signals influences the actions of others more than any single individual influences the actions of the signal caller. The child might properly ask why this player has the right to influence others? This right to influence others is *authority*, another concept which we must make use of if social systems, as going concerns, are to be understood.

In college football, the coach has the right to influence the players. He is an authority. When he sends the team onto the field to play an opposing team, the authority is temporarily and partially transferred to a player who calls the signals. He further designates which players will play certain positions, or certain roles. With the authority and role go both *rights*, or immunity from influence, and *duties*, or required obedience to authority and conformity to requirements associated with the roles being played.

Thus we have as elements of a social system: *authority*, or the right to influence others; *roles*, or what is expected of each member in a given situation; *rights*, recognized as giving immunity from authority; *duties*, recognized as required obedience to authority and conformity to requirements associated with the role one is playing; and *status*, which is based upon the consensus of the members of the system as to what qualities are to be rated high and low.

It is not difficult to make the point that *territoriality* or location in physical space is also a very important element which should not be omitted in the description of social systems. In team athletics the rules of the game specify the spatial relationships of the various players. In offensive play the football center cannot trade places with the end, or in baseball the

pitcher cannot trade places with the catcher. The roles are assigned to physical locations as related to the other players. In considering systems as a whole territoriality is also important. In warfare control of areas is basic to strategy. When countries are occupied following a war, boundaries become very important because they indicate the spatial extent of the occupying army's authority. In systems such as concentration camps and prisons territoriality is of extreme importance. Coercion is linked to territoriality because control of one person or persons over others requires that the person or persons to be controlled must be spatially available. In the study of kinship groups the authority pattern and other factors are related to the manner in which marriage (or the union of two kinship systems) settles the spatial relationships of the two systems. Patrilocal, matrilocal or other types of adjustment exist. Also territoriality is considered in the discussion of such locality groups as neighborhoods, rural trade centers, cities, and governmental units such as townships, counties, municipalities, states and nations.

Many other characteristics and elements have been mentioned by sociologists and anthropologists, but for our purposes only one remains to be mentioned specifically. As teams play in competition, officials such as umpires, referees, and time keepers are empowered to declare penalties for violations, thereby rewarding the other side. These penalties are determined by the rules of the game. We call this aspect of social systems *norms*. Whether they are written or not, all systems rely upon norms. These norms are a part of the value orientation of a group. Generally, as in the case of the family, the value orientation penetrates all features of the system. It legitimizes the roles, rights, authority, and status and it furnishes the basis for and meaning of them. Furthermore, it furnishes the overall ethos of the group and therefore determines the relative importance of conformity to the principles of good sportsmanship on the one hand, and "success" or winning the game on the other. In short, the value orientation furnishes the basis for determining what is good and what is bad, what is worthwhile and what is worthless.

Many elements, of course, are related to the morale of a social system. Roethlisberger² has stressed the importance of open and effective communication, both up and down the line, between authorities and the various levels of operation. Of importance also is the relative emphasis placed upon ends or objectives and the possibility of attaining them. Thus the integration of

²F. J. Roethlisberger and William J. Dickson, *Management and the Worker*, Cambridge: Harvard University Press, 1943, pp. 189ff.

all the elements of a system is important for the greatest personal satisfaction and security of its members.

Zeleny³ has developed sociometric methods for measuring what he calls morale. His measurements in reality deal with congeniality. Likert⁴ and the Morale Division of the United States Strategic Bombing Survey measured morale in terms of the absence of willingness to accept unconditional surrender, absenteeism in industry, loss of faith in leaders, belief that one's own group or class was getting the worst of it, and such general conditions as defeatism, fear, hopelessness, fatalism, and war-weariness.

Many groups are not organized for specific objectives as are associations in MacIver's⁵ sense, or special interest groups in Toennies⁶ sense. For friendship and kinship groups, the value orientation includes the objective which, if it can be expressed at all, may be as broad as "preserving our way of life" or "keeping our gang together." Any group will have some of this type of motivation which may be characterized as "persistence of aggregates,"⁷ but non-purposive behavior of the familistic *Gemeinschaft* groups make the interpersonal relationships ends in and of themselves. A typical family will not disown a son because there is an opportunity to adopt another child who will make the family more efficient in this or that respect. On the other hand, the football team which does not use the most efficient players will probably win few games. These differences are due to differences in value orientation. These remarks, therefore, should be sufficient to indicate that systems, even though all have patterns of authority, roles, functions, rights, duties, and status, may vary greatly in their value orientations.

Application of Concepts.—Variations in both social structure and value orientation make for a general over-all variation in the nature of social systems. Many writers have attempted to describe these variations by what may be called "sponge" types.

³Leslie D. Zeleny, "Sociometry of Morale," *American Sociological Review*: Vol. IV, No. 6, December 1939, pp. 799-808.

⁴The United States Strategic Bombing Survey, Morale Division, *The Effects of Strategic Bombing on German Morale*, Vols. I and II, December 1946.

⁵R. M. MacIver, *Society: A Textbook of Sociology*, New York: Farrar & Rinehart, Inc., 1937, pp. 4ff and 282ff.

⁶Ferdinand Toennies, *Fundamental Concepts of Sociology (Gemeinschaft und Gesellschaft)*, translated by C. P. Loomis, New York: American Book Company, 1940, pp. 225 and 247ff.

⁷Talcott Parsons, *The Structure of Social Action*, New York: McGraw-Hill Book Company, Inc., 1937, pp. 278ff.

Many types are in use. However, their practical utility has been questioned. It is not difficult to understand why many sociologists and anthropologists who are required to assist in directing human affairs can see little or no value in such "sponge" concepts as *Gemeinschaft* and *Gesellschaft*,⁸ mechanical solidarity and organic solidarity,⁹ sacred and secular society,¹⁰ Apollonian and Dionysian societies,¹¹ folk and civilization,¹² primary and secondary groups,¹³ or familistic, mixed (Contractual), and Compulsory interaction.¹⁴ Useful as such concepts may have proved to be in analyzing human behavior and culture, few administrators and executives would understand or be interested enough to listen to a sufficiently complete explanation of these concepts to make them useful. Nevertheless, for better or for worse, such concepts as these may be very important in major social movements.¹⁵ The Nazi movement would never have been what it was without the *Volksgemeinschaft* idea,¹⁶ nor would the socialist and communist movements be what they were without the Marxian concept of the *buergerliche Gesellschaft*. These and similar concepts have played and will play major roles in wars, race riots, and revolutions.

Consciously or unconsciously everyone, whether or not he is directing human affairs, is continuously using similar concepts. When they are of such a nature that they may be defined, their elements specified, and their over-all or Gestalt qualities described in objective terms, they may be instruments of science. When not, they may be useless or they may be used to accentuate prejudice, thus augmenting race hatred, religious strife and class conflict.

SOCIAL SYSTEMS TO BE COMPARED

To illustrate the use and components of the type concepts employed,

⁸Toennies, *op. cit.*

⁹Parsons, *op. cit.*, pp. 301-451.

¹⁰Howard Becker and R. C. Myers, "Sacred and Secular Aspects of Human Sociation," *SOCIOMETRY*: Vol. V, No. 3, August 1942, pp. 207ff; also *SOCIOMETRY*: Vol. V, No. 4, November 1942, pp. 355ff.

¹¹Ruth Benedict, *Patterns of Culture*, Boston: Houghton Mifflin Co., 1934.

¹²Robert Redfield, "The Folk Society," *American Journal of Sociology*, Vol. LII, No. 4, January 1947, pp. 293-308.

¹³C. H. Cooley, *Social Organization*, New York: Charles Scribner's Sons, 1909.

¹⁴Sorokin, *op. cit.*, pp. 93-118.

¹⁵Paul Honigsheim, "The Roots of the Nazi Concept of the Ideal German Peasant," *Rural Sociology*, Vol. XII, No. 1, March 1947, pp. 3-21.

¹⁶C. P. Loomis and J. A. Beegle, "The Spread of German Nazism in Rural Areas," *American Sociological Review*, Vol. XI, No. 6, December 1946, pp. 724-734.

it is proposed to compare an Amish family, a Latin American ditch association, and a federal government bureau in the United States Department of Agriculture, systems very familiar to the authors.

As social systems, the Amish family and the Government Bureau are, of course, essentially different. Their outstanding difference is their value systems, or what Sorokin¹⁷ calls law-norms. One is more of the familistic *Gemeinschaft* type, the other more of the nature of a contractual *Gesellschaft* type. These two type concepts, the latter word of each pair developed by Toennies¹⁸ and the former by Sorokin, are not found in actual life, but represent types which stand at the extremes of certain continua. Like the elements of atoms in nuclear physics, they are fictions of the mind, invented to assist in understanding the data.

Likewise, compulsory *Gesellschaft*, another concept used by the authors, is a pure type. Probably the large slave-labor camps or the most dreaded of the concentration camps of totalitarian states come nearest to the compulsory *Gesellschaft* traits. Many of our own penitentiaries which use prison labor would resemble this type. On the other hand, the isolated peasant family and the most intimate and solidary friendship groups tend to resemble the familistic *Gemeinschaft* type. Related to these extremes, but for many qualities not a part of a continuum between familistic *Gemeinschaft* and compulsory *Gesellschaft*, we have the contractual *Gesellschaft* type. Toennies thought the attitude and behavior of people in the stock market characterized *Gesellschaft*. Sorokin and Maine think of people associated with one another by contract as forming the prototype of what they call the contractual and we call contractual *Gesellschaft* relationships.

THE AMISH FARM FAMILY

Status.—The Amish family with which the senior author worked was a typical lower class Amish farm family. The family accepted this *status* and as a tenant lived on the outskirts of the Older Order Amish settlement which numbers about 3,500 persons in Lancaster county, Pennsylvania. The culture of these people is described elsewhere.¹⁹ Unfortunately, it is not possible with the space available to describe the history and many other facts of importance concerning these people. The family considered here

¹⁷Sorokin, *op. cit.*, pp. 72-77.

¹⁸Toennies, *op. cit.*, pp. 16ff, 37ff.

¹⁹For a more complete description of the Amish culture see Walter Kollmorgen, *Culture of a Contemporary Rural Community, The Older Order Amish of Lancaster County Pennsylvania*, Rural Life Studies, Washington: U.S.D.A., September 1942.

lives in the mother settlement from which colonies have gone out into various states. Its lower class status is derived from renter tenure and lower income which prevented location in a more central part of the settlement where land values are almost ten times higher. The more central location insures families more isolation from the "gay" people or non-Amish outsiders. Among Amish families the chief elements from which *status* is gained are: (1) conformity to the sacred mores of the Amish; (2) success in farm operation; and (3) hard work and thrift. Within the family, status is determined according to much the same principles. Obedience and willingness to participate in the cooperative activities of the family with all one's energy and ability is very important.

The Amish think of themselves as a people apart, God's plain people, who have always been persecuted by outsiders. Their *norms* which taboo the use of possession of many conveniences considered as part of the profane, ungodly world outside, are the most significant characteristics making them different. Thus, in farming, tractors cannot be used for draft power. Neither can the Amish own automobiles, trucks, electric lights, lightning-rods, radios, telephones, bicycles, electric refrigerators, indoor toilets, and fancy house decorations. Plain clothes, without buttons, are prescribed for work, church and visiting. Standardized, "plain" grooming in hair styles is characteristic.

Only farming and a few related non-urban occupations are open to children. School beyond the 8th grade or beyond the age of 14, musical instruments, non-biblical books, membership in non-church organizations, and many other activities and objects are tabooed. Dress and grooming mark the Amish as a people apart and great value is placed upon being in "full fellowship." Violations of taboos or failures to abide by prescribed customs may deprive one of the right to communion or may lead to shunning. In the latter case, even the nearest relatives refuse to interact with the violator until he either repents or makes amends. The alternative is to "go gay," that is, to give up the privilege of "full fellowship" and all other privileges of the sort.

Limitations on the possession of such American symbols of *status* as automobiles, education, house furnishings, clothing, and the like is accompanied by great emphasis upon success in farming and upon hard work. Many dairy farmers arise at 4 A.M. and retire regularly at 8 at night.

Roles and Functions.—The family, with whom the senior author lived, included the mother and father, a 19-year-old son, and seven daughters, ranging from 17 years to an infant. With the exception of the baby, of course, the entire family worked as a team. Each child had certain functions and duties to perform.

At 9 o'clock one morning in April, according to the investigator's notes, the family was engaged in the following activities: The father, Christopher, was plowing with the 3-horse sulky; the son, David, and the investigator were loading and spreading manure; the mother and three older girls were currying the 20 cows, the youngest daughter was feeding the chickens; and the baby was cooing in her basket in the barn. The family had all arisen at 4:30. The mother had quickly started a fire in the range and had left one of the youngest girls to cook the cereal and boil the coffee. She had then followed her husband, son, and daughters to the barn to help milk and feed the 20 cows. Each person had specific cows to milk by hand and some specific duties to perform. However, if one were sick or if another, such as the investigator, were added to this work team, the father had no difficulty readjusting the work in such a way that a new equilibrium was formed with little frustration or friction. Other Amishmen sympathized with Christopher for having only one boy left at home, because in general, the heavier field work falls to the men. On this farm, however, the girls and mother all participated in field work. The roles and functions were assigned in accordance with required strength and abilities. A general consideration, however, specifies that the women's first duty is that of caring for the house, poultry, and pigs, while that of the men is almost exclusively outside household affairs. Accounts and buying are the man's business, although in this family the woman's superior education resulted in her participation in these affairs.

The family had two buggies which could not, however, be used interchangeably by the father and the son. Since David was in the courting stage, he had an open buggy, harness and several blankets. If David followed the recommended practice of the Older Amish he would attend barn singings, court a girl and marry her at about 20 years of age. After the wedding he would sell the open buggy and buy a grey-topped closed one such as his father had. He would then grow a beard and his wife, who would have brought to the new house her hope chest and dowry, would ride with him in the grey-topped closed buggy. A careful observant would note that after the wedding the bride would no longer wear her white cap and white apron. Neither the bride nor groom would attend the singings after marriage.

Authority.—The Amish family has often been described as patriarchal. To this the authors would most certainly agree. Some superficial observers have described the Amish father as a dictator, and it is true that the good Amish wife and children are supposed to be submissive to the father and the children to the mother when the father is absent. Children call their mothers and fathers "mama" and "dad," or comparable terms, never using

their first names when addressing them. The father and mother always use first names in addressing one another or the children. The children use first names when addressing one another. Chapple's and Arensberg's²⁰ interaction measurements would indicate that the origin-response ratio of the husband was great, that he ordered, suggested, directed, and that wife and children conformed and obliged. Such quantitative measures, however, might misinterpret the authoritarian pattern. If one heard the Amish father order his son to fix the fence in the pasture, it might sound dictatorial. However, it would take on a different meaning if he knew that previously the son himself had said that the fence needed repairing lest a cow attempt to crawl through and cut her udder. Many of the directives which Christopher gave resulted from similar discussions. Nevertheless, wives and children are expected to obey fathers, and children are expected to obey both parents. As will be shown later, the Amish father's interaction with other members may superficially resemble that of an authoritarian system such as an army unit, but they are by nature quite different and this will become evident as the conceptual scheme we plan to employ is developed.

THE DITCH ASSOCIATION OF EL CERRITO, NEW MEXICO

The function of the ditch association in New Mexico is to clean, maintain, repair, and control the irrigation system of El Cerrito, a New Mexican village of 25 families.²¹ Since few cultivated crops grow in the village without irrigation, the association, next to the family and the church, is probably the most important organization. All families owning land in the valley are eligible for membership. Although there is no formal constitution the Association is almost as old as the village. No dues are paid. Instead each family contributes labor in accordance with the area of irrigated land operated. Usually one day's labor is required for each acre of irrigated land. If the dam is washed out or any other catastrophe occurs, the labor involved is allocated in accordance to the number of acres to be watered.

Authority or control of operation is placed with the ditch boss or

²⁰Eliot D. Chapple and Conrad M. Arensberg, *Measuring Human Relations: An Introduction to the Study of the Interaction of Individuals*, Genetic Psychology Monographs, 1940, 22, 3-147. E. D. Chapple and D. Gordon, "A Method for Evaluating Supervisory Personnel," *Harvard Business Review*, Winter 1946, pp. 197-214.

²¹See *Culture of a Contemporary Rural Community, El Cerrito, New Mexico*, by Olen Leonard and C. P. Loomis reprinted in C. P. Loomis, *Studies of Rural Social Organization*, East Lansing: State College Book Store, 1945, pp. 265-338.

Mayordomo who, with the ditch committee of three members, is elected by popular vote of all members of the village. The role or function of the boss as an official is to plan the cleaning of the ditch, an event which assumes the character of a community fiesta. Other functions are to inspect the ditch at regular intervals and to call out the men to work when the ditch is to be repaired. In many New Mexican villages the ditch boss has great status in the community. At El Cerrito the duties are equal to or exceed the rights attached to the role and the office is passed about to all who will function in it. No pay is received and the only reward, other than the prestige attached to the position, comes by virtue of the fact that the boss is not expected to do any labor since he is a supervisor. Except for the priest, ditch bosses and all other authorities are called by their first names by persons of their own age group.

Only first names are used among the members. If enmity develops between members, they may address one another by last names. However, this is not common in this association. In the roles as members of the ditch committee, committeemen are to make new rules for the regulation of the association and to see that the old ones are enforced. They must regulate water according to supply and need. The authority of the officials is not questioned but they usually follow tradition or consult with other leaders.

Another aspect of the value orientation is reflected in the fact that a violation of the code of the association may mean sanctions in the form of water right suspensions or heavy penalty in the form of labor. However, people are expected to be and usually are cooperative. Sanctions are seldom necessary. One's status in the community depends in no small measure upon willingness to submerge self-interest. If a member fails to do his share for good reason, the member is pardoned. The people say, "It's the spirit that counts." In general, there is a definite status system for cooperators. Those who shirk or do not do their share in the cooperative undertaking later find that in other events assistance they need is less readily forthcoming. The value placed on doing one's share is very great, although one's contributions in this rather timeless society are certainly not accurate to the minute or even to the hour.

THE DIVISION OF EXTENSION AND TRAINING IN THE U.S.D.A.²²

The Division of Extension and Training, like the Technical Collabo-

²²For a more complete description of this governmental division which was headed by one of the authors, see Loomis, *Studies of Rural Social Organization*, *op. cit.*, Chapter 14.

ration Branch of which it is a part, came into being as a result of the war, but it is nevertheless a typical division of a governmental bureau. It became an arm of a cooperative agricultural program concerned with returning the growing of rubber, cinchona for quinine and cube for rotenone to the Western Hemisphere. These crops had originated in South America but had in large part been transplanted to the East where they, along with certain fibers and other important crops, became spoils of the Japanese after Pearl Harbor. To reestablish the production of these crops in areas accessible to the United States and with favorable growing conditions, cooperative experiment stations were established in various Latin American countries. As a part of this program, trainees were brought to the United States to learn American agricultural techniques.²⁸ Specialists were sent to Latin America to make rural sociological and cultural anthropological studies preparatory to beginning adult education and extension work. The division is expected to handle foreign trainees, to make cultural anthropological studies, and to establish extension or adult education work at the experiment stations.

Authority.—As in other government bureaus, directors, chiefs and leaders directed activities or gave the permission necessary to carry through a line of work. Rights and responsibilities of functionaries on both professional and clerical levels are specific. Authority of director, chief, head and leader is limited to the individual employee and does not carry over to members of his family. The personal life of employees and their families is very much separated from their professional lives.

Roles and Functions.—The roles and functions of the bureau evolved as time passed. Functions could not be as specific as in many bureaus because an employee, although traveling in a foreign country, was expected to look after the affairs of the various other sections, including those of crop production and station management. Upon returning he had to help assign foreign trainees to various government bureaus or land grant colleges. All were expected to keep their eyes open for capable technicians who might study agriculture in the United States and return to carry improved methods to agriculturists in their own countries. Division of function was not as great as in many bureaus.

Status.—In general, status was represented by one's professional rank, i.e., P-1, P-2, etc. In this system, status was not accorded in exact relation to rank and salary. Persons of lower rank and salary, for example, persons

²⁸As a part of the work of the division, the results of this program were evaluated. See C. P. Loomis and E. A. Schuler, "Acculturation of Foreign Students in the United States," *Applied Anthropology*, forthcoming.

with the Full Grade Basic Salary of \$3800 (P-3) combined with considerable foreign experience and mastery of foreign languages, might be accorded more respect than a Senior Scientist with \$4600 basic salary or even a Principal Scientist (P-5) with \$5600 basic salary but with little or no foreign experience and no mastery of a foreign language. Since the organization was made up of research workers, standing in the various scientific professional groups was also important.

Value Orientation and "Red" Tape—Rights and Duties.—Because the men were away from central controls a great deal of the time and were continually travelling, all enjoyed much more freedom than in most government bureaus. Even so, while in travel status certain duties had to be performed outside one's regular work. A formal call had to be made at the American Embassy which led to other duties of protocol.

Norms and Procedure.—As the division grew, procedures grew. One could not do *this* but must do *that*. Letters had to be written in five copies of different colors. Letters for the director's signature were written one way, those for the secretary's signature another, and if in either case they went to the Department of State, a different more impersonal form had to be used. Even so, anyone accustomed to European bureaucracy, particularly of the pre-war type, would have classed this division and other U.S.D.A. divisions and bureaus as relatively informal and personal. It is not uncommon for those below section heads to call division heads by their first names. Chiefs would be called by their first names only by section leaders unless those below had been former friends. Non-professionals such as clerks, secretaries and stenographers seldom call their bosses by their first names but bosses frequently call them by first names or nicknames. Clerks and secretaries did not often eat with their bosses, although all might eat in the same cafeteria.

NATURE OF HIERARCHICAL INTERACTION

In discussing the three social systems, brief mention has been made of the authority component. Before proceeding further with comparison of the three systems, we shall discuss certain aspects of authority.

In the animal world various species develop hierarchical ranking. For example, among chickens there is a well-defined pecking order. That is, chicken A can peck any other member of the flock, chicken B can peck any member except A, and so on to chicken Z, a very frustrated chicken with no one to peck. Pecking orders are, of course, seldom as regular as this. For example, chicken M may peck A and be pecked by T, but otherwise

holds a middle position in the hierarchy. The order is not absolute but once established continues to operate within a flock. A similar type of behavior has been observed among baboons and goats studied in captivity.²⁴ Dominance and submission in animals seems to be related to physical factors and to chance. Among men the processes of establishing dominance-submission patterns are much more complicated. But all who have observed frontier societies or persons working or playing together who did not previously know each other, have noted a similar "jockeying" for position. Actually, the more the jockeying, the greater the importance of the personal factor and the less structured or institutionalized the pattern of authority.

One-Way or Two-Way Interaction.—Sorokin²⁵ has called attention to variations in direction of response-provoking activity. If one is controlling a robot or hypnotized person the action is one way. The person in authority remains relatively little influenced by the person under his control. This is, however, extreme. According to accounts from internees interviewed by one of the authors, when extreme punishment was dealt out in the concentration camps, wardens had to be transferred to other camps since even the most hardened warden would often sympathize with inmates, thereby precipitating two-way action.

With Chapple's invention²⁶ it is possible to measure the extent to which interaction is one-sided by working out what he calls origin-response ratios. The greater the number of times the authority gets someone to respond to him in relation to the times he has to respond to this person, the more one-sided the action.

Co-workers of the authors who were familiar with at least two of the systems ranked on the continua to follow, were requested to rate the systems with which they were familiar. Olen Leonard²⁷ knew the El Cerrito Ditch

²⁴For a summary of these studies see Charles F. Harding III, "Objective Studies of the Social Behavior of Animals," *Applied Anthropology*, Vol. II, No. 4, July-September 1943, pp. 21-29; also J. P. Scott, "Dominance and the Frustration-Aggression Hypothesis," *Physiological Zoology*, Vol. XXI, No. 1, January 1948, pp. 31-40.

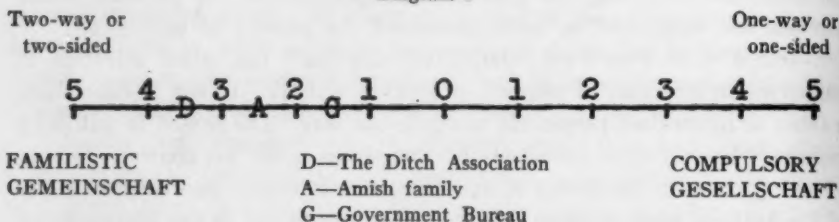
²⁵Sorokin, *op. cit.*, pp. 106ff. The importance of compulsion in bureaucratic organization, especially as it evolved out of the feudal economy, has been emphasized. See also Reinhard Bendix, "Bureaucracy: The Problem and its Setting," *American Sociological Review*, Vol. XII, No. 5, October 1947, pp. 493-507. Bendix quotes J. L. and Barbara Hammond, *The Town Laborer 1700-1832*, London: Longmans, Green & Co., 1925 in support of the compulsion entering bureaucracy from the feudal system.

²⁶Chapple and Gordon, *op. cit.*

²⁷Leonard and Loomis, *op. cit.* Leonard not only lived in the village of El Cerrito but was a staff member of the Division of Extension and Training in the Technical Collaboration Branch of the Office of Foreign Agricultural Relations in the U.S.D.A.

Association and the Government Division intimately. Walter Kollmorgen²⁸ knew the Amish culture and a comparable government division. Wilson Longmore²⁹ knew comparable government divisions and Latin American social systems. These rankings which were made independently were used in placing the systems on the diagrams which follow. In general, there was very little disagreement among these co-workers. Others familiar with comparable situations were also requested to place the systems in a similar manner.

Diagram 1



In comparing the three systems as a means of illustrating the important components of social types, it is important to recognize that the extent to which interaction is one-sided does not determine whether the relationship is of the familistic Gemeinschaft or compulsory Gesellschaft type. Important as this characteristic is, for our consideration there are other aspects more important than the quantitative or formal proportions of the acts which are under the control of another. Thus, a formal organization chart which shows the proportion of the actions which are controlled by an Amish father and a similar chart of any small army unit may be quite similar. A similar chart which shows the proportion of the activities of a child which is under the control of a loving mother may resemble a chart showing the same characteristics of the relationships between an inmate in a concentration camp or chain gang who is being worked to death.

That a purely quantitative description of the proportion of one's acts

²⁸Kollmorgen, *op. cit.* Kollmorgen made the original study here cited. The senior author lived with an Amish family in the community being studied and acted as general supervisor of the study under the direction of Carl Taylor, Head of the Division of Farm Population and Rural Life of the U.S.D.A.

²⁹C. P. Loomis, J. A. Beegle and T. W. Longmore, "Critique of Class as Related to Social Stratification," *Sociometry Monographs* No. 19, 1948. Longmore studied the Spanish-American culture of the Southwest, and under the direction of the senior author studied villages in Peru. He worked for many years in the Division of Farm Population and Rural Life and consequently has had experience with bureaucracy as well as Latin American social systems.

which are not directly and immediately controlled by others can be no satisfactory basis for typing human activity, is obvious. Without being able to compare one's desires with the means of satisfying these desires there exists no realistic description of the relationships. These facts indicate the necessity for considering other qualities of social structure and value orientation. All that the following analysis can hope to accomplish is an elaboration of the key concepts to be used in the text through the comparison of the agencies with regard to certain key characteristics used as continua. Through these comparisons it is hoped that the meaning of the concepts familistic Gemeinschaft, contractual Gesellschaft and compulsory Gesellschaft will become clearer. As will be noted, the terminal points of most of the continua are familistic Gemeinschaft at one extreme and contractual Gesellschaft at the other. The compulsory Gesellschaft is a mixed form having aspects of both.

The two continua most closely related to authority, namely, two-way or two-sided vs one-way or one-sided, and voluntary vs compulsory action, are different in this respect. With regard to these continua the extremes might lead to misrepresentation of the authoritarian pattern. Although the Amish father's interactions with other members may superficially resemble that of an authoritarian system such as any army unit, as indicated above, they are by nature quite different. When an Amish father orders a son to do something, one always knows that the father truly believes the act will not be to the son's disadvantage. The son is an end as well as a mean in this means-ends scheme.

In the government unit such communication as there is with the lowest level or echelon of employee comes down through the line and such communication as these employees have with the chief is up through the line, i.e., through the section and division or branch head. Directives which must be carried out, whether the subordinates have suggested them or not, are much more common than in the case of the ditch association. Most of the directives of the ditch boss are those which are really not directives at all in that they are decreed by custom. At a specific time each season the ditch is cleaned under the direction of the boss. If the dam washes out the whole village expects the boss to call all workers who own land together to make repairs. A ditch boss who tried to get the villagers to do things which were very different from those which were accustomed, would find that his directives were disobeyed.

Diagram 1 shows the rating of the ditch association, the Amish family, and the Government bureau with regard to one-way or two-way interaction. Note that the ditch association is rated as the least one-sided while the government bureau is considered the most one-sided.

Voluntary Versus Compulsory Hierarchical Relationships.—The difference between the interaction pattern of the typical mother and her children and between the warden in a concentration camp and his subjects illustrates the difference between the one-way versus two-way interaction on one hand and the voluntary versus compulsory interaction on the other. The mother-child interaction may involve considerable one-way activity, with the mother directing the actions of the children. However, considerable of the child's activity results from his attempts to satisfy his own needs and desires. In a typical slave labor situation the proportion of the subject's activity which is directed toward satisfying the individual's needs and desires is relatively small.

Sorokin has described freedom through the use of the following formula:

$$\frac{\text{Sum total of means (S.M.)}}{\text{Sum total of desires (S.D.)}}$$

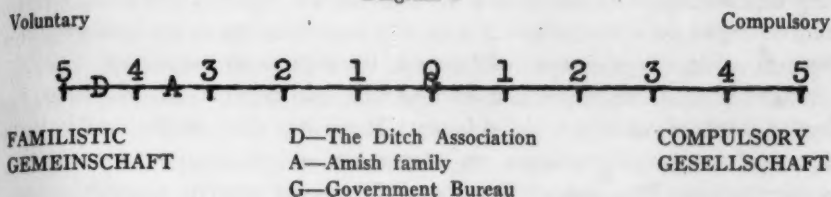
He indicates that "when the numerator exceeds or is equal to the denominator, one is free; otherwise one is unfree."⁸⁰ If the desires exceed the sum of the means for their satisfaction one is unfree. Thus one can "free" oneself by decreasing one's desires. Using this formula one may study the amount of compulsion or lack of freedom in the hierarchical relationship of the Amish father with other members of his family, the ditch boss and the other members of the association, and the government division chief and his subordinates.

We have attempted to consider the proportion of activity under the direction of the superior in each system which would have been voluntarily engaged in if the members were "freed" from the authority under consideration. Thus the authors know that the Amishman's son was not "free" to court girls in his father's covered carriage but we also know that he did not want to do this. To be sure, the Amish boy does work hard cleaning stables and other tasks which he is told to do by his father, but such tasks do not run counter to his expectations and he does not object. Real restraint or compulsion, of course, will lead the individual to attempt to get away from the system. Consequently, the desire to free oneself from the control of the superior was also used as a criterion in placing the systems on the continuum. See Diagram 2.

Group Solidarity Resulting from Convergence of Interests and Sentiments of Subordinate and Superior Versus Antagonistic Interests.—If people try to stay in a system through both favorable and unfavorable conditions,

⁸⁰Sorokin, *op. cit.*, p. 469.

Diagram 2



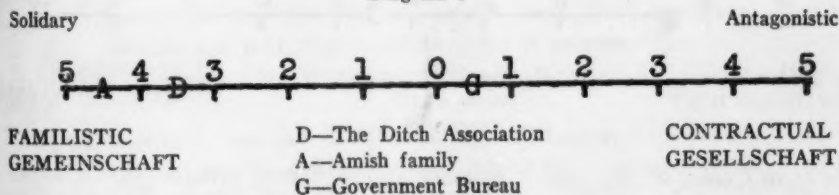
the indications are that individual and group interests harmonize. Other measures of solidarity such as attitude and opinion analysis are available as criteria to be used in placing social systems on this criteria. Wrangling, fighting, and controversy within the system can be used as measures of solidarity or antagonism in the authority pattern of systems. In this as well as in other comparisons, better measures than desire to leave or remain in the system undoubtedly will be developed.

The authors have attempted to rate the three systems under discussion on the solidarity-antagonistic continuum as expressed in relationships of superiors to subordinates and vice versa as developed by Sorokin.³¹

Paternalistic as they are, few families have members who are more satisfied and less anxious to leave their homes than the Amish. Indeed it would be a heart-breaking experience for any of the children to have to leave the family completely. Many wanted to and have left the government unit, in part at least, because of the lack of solidarity with superiors. The Amish family is the most solidary while the German concentration camp is the least solidary units known to the authors. As here used, group solidarity is synonymous with group morale. Willingness to sacrifice for the good of the group and its perpetuation was also used in placing the systems on the continuum. Graphically, the relative position of the Amish family, the ditch association, and the government division are portrayed in Diagram 3.

Short Primary³² Versus Long Secondary Channels of Communication.—

Diagram 3



³¹*Ibid.*, p. 93ff.

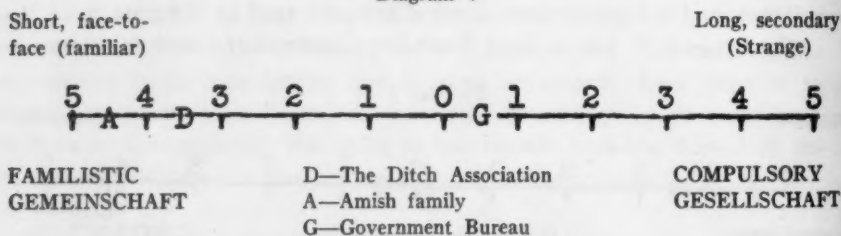
³²See Cooley, *op. cit.* Cooley's category was broader than used here, resembling more the familistic Gemeinschaft type used in this paper.

Any experienced administrator knows that morale, other things being equal, may be improved if the person in authority and those whom his authority influences can see "eye to eye". Of course, the expression "seeing eye to eye" connotes a great deal more than face-to-face relationships. In particular, it implies that relationships are solidary. However, there is the implication that face-to-face relationships are important and necessary for complete understanding. That most differences and conflicts are due to faulty communication is no profound observation. It is common knowledge that many, if not most, of the frustrations in modern bureaucracy grow out of the secondary nature of communication.

If contacts between superiors and subordinates are to be classified as to whether they are face-to-face and by telephone (ear-to-ear), one would have an index of the extent to which communication is primary. In modern bureaucracy another index would be the prevalence of procedure manuals directing how communication is to be carried on. It is obvious that this continuum is related to the extent to which authority is personal or impersonal and the proportions of communications which are two-sided, as discussed previously. However, meanings of communications in their situational contexts are important. A short, curt communication from a relative or friend whose practice it is to send such messages would be received differently than a similar communication from a stranger.

It is quite easy to indicate the differences in the three systems under consideration on a face-to-face versus secondary continuum, using the above criteria of merely computing the proportions of the communications or time consumed in communication of supervisor and supervised in actual person-to-person contacts. See Diagram 4. These categories are discussed on the

Diagram 4



basis of Cooley's³³ dichotomy, primary and secondary groups. In the sense here used, the headings at the extremes of this continuum could be changed

³³*Ibid.*

to familiar versus strange. As Mannheim³⁴ has shown, these differences are in part due to the magnitude and nature of the organizations involved. Because of specialization and division of labor most members of a bureaucracy do not know many persons outside their own office and level. Most do not see their own operations as a part of the whole. They and their work are "strange" and separated from the whole. As stated previously, in the concentration camps in Nazi Germany where it was the policy to punish inmates through various types of cruel treatment, it was found that it was necessary to move normal officials frequently to avoid their becoming familiar with the inmates whom they often hated as a group, but for whom they developed sympathies when they became acquainted.

Compulsory relationships require secondary contacts. If contacts are primary, familiarity develops and the nature of the relationship may cease to be compulsory. An index of the extent to which contacts are primary or secondary in a given community may be the span of acquaintanceship of individuals in that community. In urban neighborhoods, particularly those which are quite mobile, investigators sometimes find that the average adult person knows at most several other persons in his block or locality. Some Amishmen are acquainted with almost all adult members in the Amish settlement of some 3500. The authors know of Spanish American towns in which the range of acquaintanceship is even greater. In some instances the acquaintanceship range developed from ordinary everyday living and visiting is as great as that of the urban politician. As will be indicated later, the politician whether rural or urban may make capital of his wide range of acquaintances. The connotation of this tendency will be discussed under the various continua involving rationality.

RATIONALITY AND EFFICIENCY

In the operation of a factory or business the factors of production, land, labor, and capital may be equated or substituted one for the other. "In a period when wages are high and machinery cheap, manufacturers use less labor if possible and substitute machinery for it at every turn." When the entrepreneur considers the elements of production rationally, "The efficiency

³⁴Karl Mannheim, *Man and Society in an Age of Reconstruction*, New York: Harcourt, Brace and Company, 1940, pp. 52-60. Mannheim differentiates between "substantial" and "functional" rationality. Employees who are extremely competent in their work may not understand the first principles of the basis of their operations. Such rationalization makes for a "secondary" atmosphere not known to persons working in the crafts and guilds or on a family farm.

in the utilization of one may be at the expense of efficiency in the utilization of the others."³⁵ Of course, this means that people are equated to things, and all equated to money value. "... the entrepreneur is not interested in low costs as an end in themselves, but only as a means to an end, and that this end is the highest possible profit that he is willing to strive for..."³⁶

Assuming that the end of a given social system is the highest profit combination, the entrepreneur would be behaving rationally, as the term is used here, if he discharged workers during a depression if this would prevent losses. He would be acting irrationally if he retained workers under these conditions, even those who were his friends and relatives. As stated previously the family farm as an enterprise does not adjust its labor supply by casting off its members merely because the price situation does not permit the unit to pay for their upkeep.³⁷ Of course, this "inflexibility," as some economists call it, often keeps more people on the land than might otherwise be the case. The "irrationality" of this situation is deplored by some economists who seem not to understand the difference in the value orientation of a family on the one hand, and a bureaucracy on the other.³⁸ With a family, the children and parents are ends in and of themselves. Rational entrepreneurs who operate efficient plants are in many ways not unlike effective military strategists. In the logistics of military campaigns men and equipment must be equated. If there is a shortage of some item of equipment, more men may have to be sacrificed to take an objective than would otherwise be the case. Thus human beings become means through the use of which ends are obtained. Norms of this type are very different from those by which the typical family functions.

Modern psychology does not support a division of individual acts into the rational and nonrational, and as Parsons³⁹ has noted, these concepts are still useful in the description of social action. Kardiner⁴⁰ and his followers

³⁵John D. Black, *Introduction to Production Economics*, New York: Henry Holt and Co., 1926, p. 314.

³⁶*Ibid.*, p. 335.

³⁷This is called "lack of flexibility" in a recent publication on the family farm. See Joseph Ackerman and Marshall Harris, *Family Farm Policy*, Chicago: University of Chicago Press, 1946, p. 394.

³⁸See T. W. Schultz, *Agriculture in an Unstable Economy*, New York: McGraw-Hill Book Company, Inc., 1945, p. 201.

³⁹A. M. Henderson and T. Parsons, *Max Weber: The Theory of Social and Economic Organization*, New York: Oxford University Press, 1947, p. 27.

⁴⁰Abram Kardiner, *The Psychological Frontiers of Society*, New York: Columbia University Press, 1945, pp. 39-41. The Kardiner principle is perhaps best explained by the following quotation:

draw the distinction between "taught or rational" and "projective" systems. The former, as used by this group of scientists, is more compatible with processes dealing with manipulation and making of tools and other comparable operations; the latter with folklore and religion. The rational as well as the irrational or projective, in the context of Kardiner's frame of reference, may carry emotion. Nevertheless, the Weberian usage which sets the rational as opposed to the emotional has advantages and is employed here. Emotions may be manifest in technical operations, but for our purposes, the continuum influenced by Emotion versus Rational, Planned, is meaningful and easily understood when considering interpersonal relations.

Three non-rational types of behavior are traditional, emotional or affectual, and sacred. Rational efficiency in operating a factory, the object of which is to make profits, would require that such attitudes as might prevent maximizing profits according to the legitimate norms be overcome. If inertia or a clinging to old ways just because of habit or custom prevented efficiency, traditionalism would have to be combated. For the sake of convenience, traditionalism is here thought of in a very narrow sense as merely inertia to change.⁴¹ Another type of irrationality results when authorities

"These two types of mental process depend upon different orders of experience. The differentiating feature is not that one has an emotional constituent and the other not. Both have emotional components. Rational thinking is driven by curiosity and has such goals as mastery and utility. The emotional component of projective thinking is made up of all those affects which accompany human relations. In the systems built on a projective basis the conclusions drawn do not depend upon any fixity in nature, but on sequences which are contingent on institutionalized practices conveyed by parents or other people in the environment of the growing child. Hence our interest in the genetic aspects. The experiential base of a projective system is generally forgotten; its only remains in the personality are to be found in the conditioned perceptions, meanings, affects, psychosomatic reactions, and behavior. It is a feature of such projective systems that they are capable of extensions upon situations which have no actual resemblance to the experiences on which they were based. This may be called symbolic extension. Projective systems are established under the influence of the pleasure principle, avoidance of pain, or expediency. The conclusions on which projective systems are based are not inherent but are the record of traumatic experiences. Projective systems are therefore excrescences developed from nuclear traumatic experiences within the growth pattern of the individual. Just as the character structure of the individual has a large component of these projective systems, so the basic personality in any culture contains them. The fewer the anxieties in the growth pattern, the simpler the projective system (Comanche). It is these systems which have given rise to the complaints about the 'irrational' factors in society. Their purpose is adaptive, to relieve the mutilating effect of painful tensions. In practice they often miscarry in ways which will be specified."

and symbols are thought of as ends in and of themselves. It is recognized, of course, that the traditional and sacred aspects of activity are usually related, but on the other hand, new symbols and charismatic leaders sometimes acquire sacred characteristics. However, when authorities, acts and symbols come to be thought of as means to ends and not ends in and of themselves, they become secular or rationalized. Another type of action which must be overcome if rational norms are to prevail is impulsive emotionalism. The subordinate or the authority who is guided by whims, fits of anger, compassion, and the like in his actions is irrational.⁴² This is true unless he consciously uses these outbursts as a means of getting what he desires.⁴³ When all acts are planned, they tend to become rationalized.

However, "rationalized" administrations⁴⁴ require that the administrator be endowed with a peculiar value orientation. He must be committed to the faithful execution of his duties, devoted to the impersonal carrying out of his role which confines him to the limits of his professional competence. The administrator who cannot detach himself from obligations to friends, or is unable to utilize new processes is not "rational," as the term is here used.

Sacred versus Secular Authority and Interaction Patterns.—None of the three social systems under observation have authority patterns which are sacred in the sense that the Japanese Emperor is sacred. In our considerations we accept Durkheim's⁴⁵ definition of the sacred as being a property not necessarily related to the intrinsic properties of persons, thoughts and acts but rather to the attitude people have toward them. The sacred is set apart by a particular attitude of respect. It is thought of as having peculiar virtues and special powers. Persons who come in contact with the sacred must assume special attitudes, respect, and precautions. The sacred is hedged about by restrictions and taboos of all sorts. As Merton⁴⁶ pointed out, the more stress placed on norms in a system, other things being equal, the more

⁴²Henderson and Parsons, *op. cit.*, See Chapters III and IV.

⁴³Henderson and Parsons, *op. cit.* As indicated by Weber and Parsons, the traditional form of authority is more compatible with whim and sacredness. However, for empirical procedure, rational is here compared with the three types of non-rational action, namely traditional, sacred, and emotional.

⁴⁴Hitler's rage was often rational in that he was consciously using these "acted out" emotions to attain ends. This is not impulsive outbursts, here considered irrational.

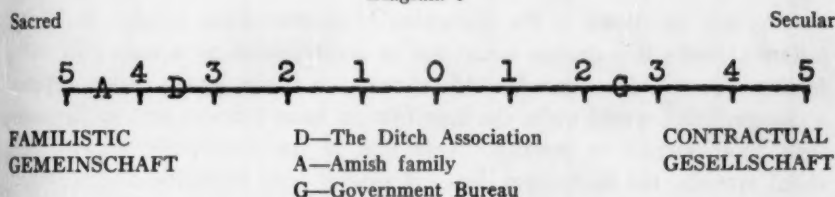
⁴⁵See Bendix, *op. cit.*, p. 496.

⁴⁶Emile Durkheim, *Elementary Forms of Religious Life* (Translated by J. W. Swain), London: George Allen and Unwin, Ltd., p. 37.

⁴⁷Robert K. Merton, "Social Structure and Anomie," *American Sociological Review*: Vol. III, No. 5, October 1938, pp. 672-682.

action takes on a ritualistic, or what we here are thinking of as sacred nature. The more ritual connected with the interaction of subordinates and authorities, the more sacred various types of authorities may become. The traditional leader, or the leader who rises to fame because of fortuitous circumstances and personal characteristics, becomes sacred for reasons different than those which account for the sacredness of the Pope or other leaders who take a traditionally sacred office. However, when sacred persons, things, or acts of any kind are used for utilitarian purposes, they become secularized and people no longer hold the special reverential attitudes toward them which makes them sacred.⁴⁷ Attitude analyses, perhaps with depth interviewing, would be required to indicate the sacred or secular quality of the interaction in many hierarchical relationships. The authors have attempted to classify the three systems on the sacred versus secular continuum by the amount of both deference and reverence accorded the various leaders in the units discussed. Diagram 5 shows the relative position of the three systems on this particular continuum.

Diagram 5



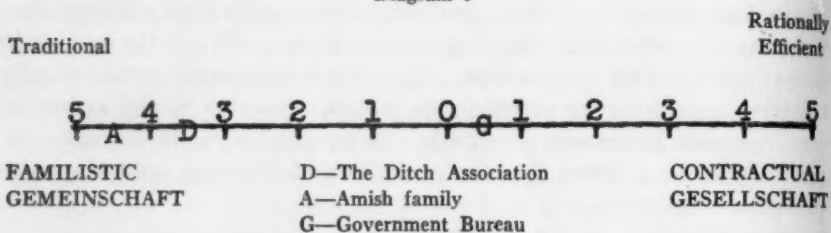
The systems differ basically in the nature of authority as it is being discussed here. If one were to attempt to get the Amish father to change his interaction pattern with his family, to be successful one would have to argue that the recommended behavior was more godly. That it was more efficient would have little meaning. On the other hand, one might appeal to the bureau chief to change his interaction pattern by proving the recommended was more efficient.

Traditional Versus the Norm of Rational Efficiency.—Possibly the inertia which prevents social systems from adopting more efficient methods of doing things is the best measure of the extent to which they are influenced by tradition. There are, of course, many social and psychological factors other than social inertia, (comparable to habit in the individual) which pre-

⁴⁷Symbols such as pictures of semi-sacred charismatic leaders in the totalitarian states seem to be so widely distributed as to make them secular. However, in Nazi Germany stores exhibited busts of Hitler made from soap and lard which were sold at low cost. Later storekeepers were punished for attempting to increase sales in this way.

vent change. Old ways may be revered, or may take on sacred aspects. Since this type of non-rational action has been discussed as a separate continuum in the preceding section, for purposes of analysis the traditional ways are here considered as customary ways which are not revered, but rather are followed by habit. Thus, if bureau chiefs have always had female secretaries but it had been demonstrated that male secretaries would increase the bureau's efficiency, resistance to the hiring of male secretaries is thought of as related to traditional action.

Diagram 6



As will be shown in the discussion of sacred versus secular authority, failure to make this change would not be accompanied by a feeling of satisfaction. Quite the opposite would be the case if the Amish father resisted a change which would make the organization more efficient and at the same time, more secular or worldly. Note that in the description of the three social systems, the continuum does not extend from familistic Gemeinschaft through compulsory Gesellschaft. See Figure 1. Compulsory Gesellschaft-like systems, such as slave gangs and concentration camps, can be either traditional or rational in the sense that the terms are used here and would consequently be designated as mixed if included in Diagram 6. The Amish family is most subject to inertia in adopting new relationships of authority. The government division is much less subject to tradition, but any stable organization may resist change.

Emotionality Versus Rationality.—It is seldom that impulsive outburst, whether based on love, hatred or other emotions, is compatible with the authority patterns of voluntary bureaucracies, such as those in government, education and business.⁴⁸ If authorities are to express emotion at all when administering authority in such bureaucracies, they are usually rationalized or justified as having a rational end. With the family, which is the cradle of our sentiments and values, it is different. Here it is that one learns what

⁴⁸The incident of General Patton slapping a soldier and being required to make amends is called to mind.

FIGURE 1
 PROFILES RESULTING WHEN THREE SOCIAL SYSTEMS ARE COMPARED ON CONTINUA WHICH REVEAL THE NATURE OF HIERARCHICAL INTERACTION-EXERTING INFLUENCE AND CONTROL-STATUS AND ROLE SYSTEMS IN OPERATION

FAMILISTIC GEMEINSCHAFT

1. Two-way or Two-sided

2. Voluntary

3. Solidary

4. Short-Face-to-Face
 (Familiar)

5. Sacred

6. Traditional

7. Influenced by Emotion

8. Personalized Authority

9. Blanket (Unlimited) Rights for
 Authorities

10. Blanket (Unlimited) Responsi-
 bility for Authorities

COMPULSORY GESELLSCHAFT

1. One-way or One-sided

2. Compulsory

CONTRACTUAL GESELLSCHAFT

3. Antagonistic

4. Long-Secondary (Strange)

5. Secular

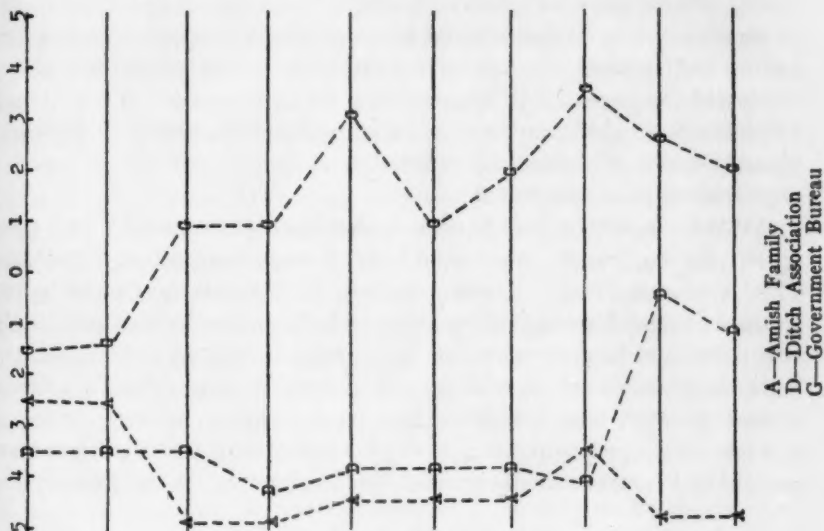
6. Rationally Efficient

7. Rational, Designed, Planned

8. Impersonal Authority

9. Rights Limited as Specified by
 Station or Office or by Contract

10. Responsibility Limited to "Sta-
 tion" and/or Contract

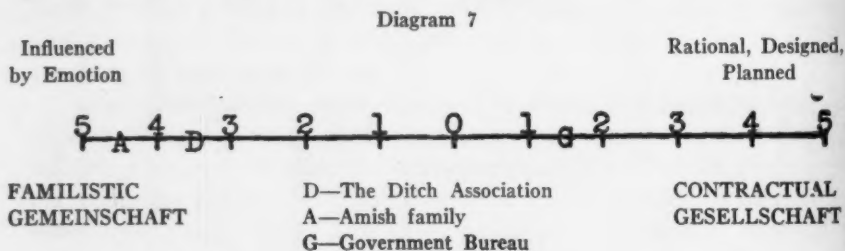


A—Amish Family
 D—Ditch Association
 G—Government Bureau

to fear, love, and hate. If there were no emotion shown by parents, children would never develop from parents the feelings which support and maintain the social structure and the group values. The projective systems which furnish the basis for religion are very greatly influenced by these early relationships and experiences.⁴⁹ Perhaps emotionality, as related to attachment or interpersonal involvement, is dramatically illustrated in the feelings of grief and loss at the death of a loved one. There is considerable difference here in the extent to which individuals become attached to or infatuated with others and hence unable to respond rationally to them under all conditions.

For the sake of analysis, we are here considering all spontaneous emotions except those related to the reverence of the sacred.⁵⁰ Thus considered, emotionality in authority patterns is closely related to the extent to which authority is personalized because, where emotions control actions, persons and personal relations have great value *per se*. Nowhere is emotion eliminated completely. But by comparing the three systems in regard to the frequency with which authority is administered with feeling or emotion as versus absence of feeling or rationality, it is not difficult to place the organizations on a continuum.

When considered in reference to familistic *Gemeinschaft* and *Gesellschaft*, the continuum can extend only through contractual *Gesellschaft*. This is true since the authority pattern in compulsory *Gesellschaft*-like systems may be characterized by either or both rationality and emotionality. It is mixed and for convenience in presentation is omitted from the diagram. Some slave camps are directed in such a manner as to obtain a maximum of work from the men, and would thus be classified as rational. Other such arrangements permit authorities to employ punishment based on the personal grudges and emotions of the guards. See Diagram 7. Of the three systems,



⁴⁹Kardiner, *op. cit.*, p. 361.

⁵⁰Max Weber used affectional as contrasted to *Wertrational* and *Zweckrational*. In his terminology, we are here contrasting affectional with *Zweckrational*.

the government unit is the most conspicuous in its lack of emotion on the part of the controlling authorities, and the Amish family is the most influenced by the emotions of the father and mother.

*Personalized Versus Impersonalized Authority.*⁵¹—Depersonalized authority prevents nepotism, special favors or concessions made to either relatives or friends. Possibly one of the most unique features of an efficient bureaucracy is the elimination of the influence of the family as well as other systems which require that relationships involving such factors as friendship or kinship be considered.⁵²

If one compares the interaction of persons of similar specified social rank with their subordinate in similar social systems, one finds that in some systems the personal factor is of relatively minor significance while the office is much more important. Thus, the behavior of army camp commandants toward their subordinates is much more standardized than that of the leaders of boys' gangs or racketeers. The explanation is that the army authority is institutionalized or depersonalized, and to a considerable degree standardized. Other things being equal, if one finds that interaction between authority and subordinates in various organizations is the same, one may conclude that authority is depersonalized and not greatly influenced by the individual in the position.⁵³

Thus, if all Amish interaction patterns for families of the same size were the same on the continuum two-way versus one-way interaction previously discussed, one might assume that authority is depersonalized. Of course, there are several other measures which may be used to indicate differences on the continuum, namely, personalized versus impersonal au-

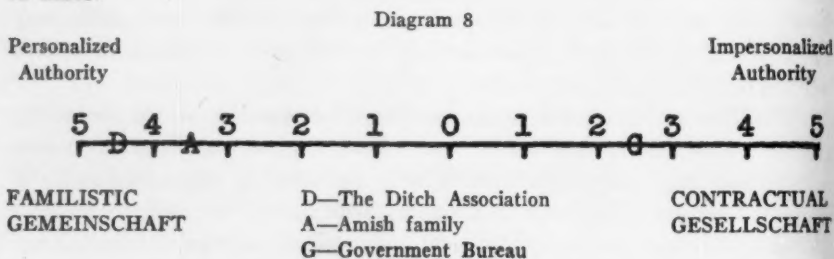
⁵¹See MacIver, *op. cit.*, pp. 246ff and 336ff for a comparison of these characteristics. For an important typological treatment of variations in authority see Bendix, *op. cit.*, pp. 504-507. Authoritarian administration is contrasted with "democratic" administration. In the former the employee is accountable to the organization, not the public outside. In the latter, as in the case of the police, effective operation requires "responsibility" to the public outside the police system. It would have seemed that this writer could have used more advantageously the army as the authoritarian type and the church as the democratic type.

⁵²By a process of differentiation modern bureaucracy emerged from a familial setting, according to Bendix, *op. cit.*, p. 496. He cites Otto Hintze, "Die Entstehung der modernen Staatsministerien," *Historische Zeitschrift*, C, 1907, pp. 60-64, 70-72, 91 and Ernest Barker, *The Development of Public Services in Western Europe, 1660-1930*, New York: Oxford University Press, 1944.

⁵³Kardiner, *op. cit.*, p. 85. Kardiner suggests that differences may be due to variations in endowment of child and parent where the institutionalized features are at a minimum.

thority. Our measure of the extent to which authority is depersonalized is based upon the knowledge that individuals vary greatly in their manner of handling people. Any standardization results in large measure from institutionalization of the authority, or depersonalization. The three social systems have been placed along a continuum of personalized authority versus impersonalized authority as shown in Diagram 8. This has been accomplished by the use of the extent to which the authorities in each system resemble one another in the manner in which they carry out their authority.

In the case of the bureau unit described here, authority is depersonalized. Soldiers are sometimes told that they are saluting the uniform not the officer. In effect, this is another way of saying that the relationships involved have been depersonalized. Not even in the army, however, is authority completely depersonalized, but in the Amish family and the Spanish-American ditch association it is highly personalized. Fathers and ditch bosses differ greatly in the manner in which they exercise their authority. Division chiefs exercise depersonalized authority and, therefore, there is little variation from office to office.



*Limited Versus Unlimited Rights.*⁶⁴—With increasing division of labor and the allocation of the individual's time and loyalty among many social systems, it can be shown that segmented areas of activity and divided loyalties develop. One's responsibilities and rights in the various systems will depend in part upon the relative importance of a given organization to the individual, and the relative importance of the organization among the social systems.

With respect to the extent of blanket rights of authorities, there is great difference in voluntary bureaucracy or contractual Gesellschaft, and familistic Gemeinschaft-like systems. In the Amish family the rights of the parent over the children are extremely great. In other groups characterized by

⁶⁴Talcott Parsons, "The Professions and Social Structure," *Social Forces*, Vol. XVII, No. 4, May 1939, pp. 457-467.

compulsory and voluntary arrangements, the rights of authorities may be limited specifically. Thus, as indicated in Diagram 9, we have again omitted compulsory Gesellschaft, a mixed form. The continuum runs merely from familistic Gemeinschaft to contractual Gesellschaft. Possibly the most important characteristic of the contractual Gesellschaft is that the rights of the authorities are limited to specific areas of activity. To the Bureau chief, what his subordinates do off hours or on vacation is, in the typical case, of no concern. His authority is limited to the system not only by the time but by the fact that other things are considered by the system to be irrelevant and, therefore, not under his influence. Probably this institutionalized pattern of limited authority on a hierarchical basis explains the prevalence and efficiency of bureaucracy as a cooperative system.⁵⁵ The many specialists and experts can by this device be encouraged to improve their competence and be brought into an effective cooperative pattern in large scale public and private bureaucracies. Such structures require specific services of the individual and tend to disregard the familistic and other outside responsibilities which he has. In the typical case an individual's status and responsibilities in a bureaucracy would not be changed by the state of health, position or need of the spouse or other family members.

In the Amish family very few acts of the children or their associates are irrelevant to the father, and he has the right to influence most of their behavior. Thus, when one calculates the proportions of the subordinate's acts which the authority has the legitimized right to influence, the Amish father ranks as having more rights than the division head. Because the rights of the latter are limited, the basic corollary becomes evident, the rights of the subjects are greater. In the case of a chain gang, in some instances at least, the authority has as many rights as the Amish father but the antagonistic nature of his and his subordinate's interaction and interest patterns makes the situation very different. The relationship of the three social systems under discussion are graphically described in Diagram 9.

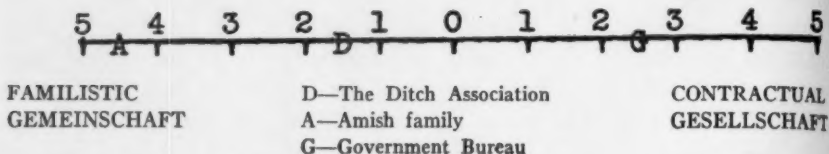
Limited Versus Unlimited Responsibility.—Many people who depend

⁵⁵See Bendix, *op. cit.* One of the best descriptions of bureaucracy known to the authors was written by Max Weber who stressed the specific nature of the roles played in the "office" as separate and apart from the person's family and life outside his "office". Through such offices "discipline" makes it possible to see that each official does the right thing at the right time and place. See also A. A. Lefas, *L'Etat et les Fonctionnaires*, Paris, 1931. Lefas stresses the importance of a hierarchy of professionals and maintains that the various ranks should be subordinated one to another in such a way as to place, without possibility of doubt, the responsibility for each act exactly where it belongs. See also Parsons, *The Structure of Social Action*, *op. cit.*, pp. 506-507.

Diagram 9

Blanket (unlimited)
rights for
authorities

Rights limited as
specified by
"station" of office
and/or by contract

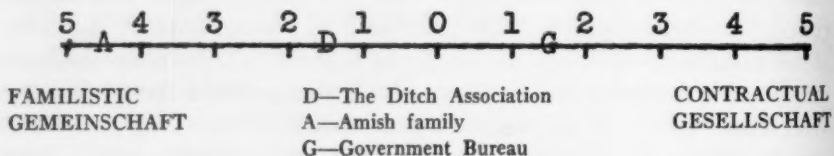


upon their occupations for security feel insecure because of the limited nature of the responsibilities of their bosses. Various types of insurance are designed to meet these needs but the impersonal assistance offered thereby does not usually supply the personal type of security which characterizes the larger family. The ratings of the three social systems on the continuum can be made on the basis of the proportion of time the leaders are free from the responsibility of assisting subordinates with their personal problems, especially in times of sickness or misfortune. See Diagram 10.

Diagram 10

Blanket (unlimited)
responsibility
for authorities

Responsibility
limited to
"station" and/
or by contract



II.

NON-HIERARCHICAL INTERACTION

Although no groups have been found in which there is no variation in the authority which resides in the various members, there is great difference among social systems in the extent of pyramiding of authority. However, as has been demonstrated above, a patriarchal family may possess more of the features of familistic Gemeinschaft than a Rochdale cooperative, even though authority is more pyramided in the former than in the latter. This is true chiefly because the family is a more solidary group. In their dis-

cussions of democracy and dictatorship, many persons, among them sociologists and anthropologists, fail to realize that the means whereby authority is attained is not the final determinant of the manner in which it is used. Voting, if carried on according to the principles of those who idealize American democracy, may contribute toward preventing the authoritarian pattern from being entirely a one-way coercive system.⁵⁶

As has been demonstrated at home and abroad, voting without other institutionalized norms and limitations does not insure democracy in the sense that its chief proponents idealize it. The important consideration here is that there are many groups, both of the familistic *Gemeinschaft* and contractual *Gesellschaft* types, where leadership is not of a coercive and highly pyramided hierarchical nature. Such groups as college departments with an elected or rotating head may be of the contractual *Gesellschaft* nature. Others such as neighborhood cliques or play groups may be of the nature of the familistic *Gemeinschaft*. The fellowship groupings described by Toennies⁵⁷ and "Companies of Equals" composed of professionals, as described by Parsons,⁵⁸ are examples of the latter.

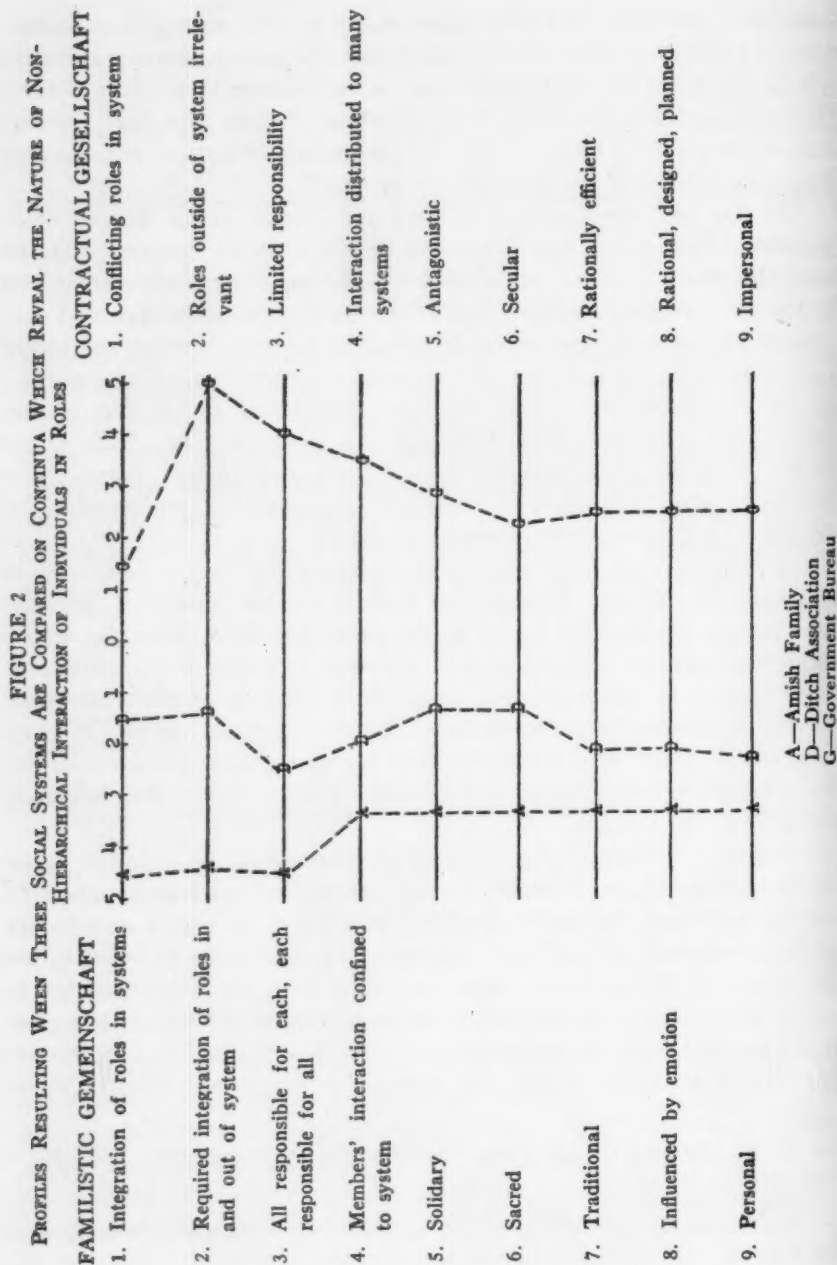
Friends vary in their influence over one another even in small cliques or congeniality groups. Organization members of the same rank have influential and uninfluential friends in the group but their interaction among themselves may be discussed without reference to the authority pattern or to the manner in which some get others to do what they wish them to do. Indeed, in some groups the authoritarian influence seems almost nil. In many congeniality groups what leadership there is may be quite spontaneous. For the relationships which follow, such existing authority or leadership is ignored for purposes of analysis.

Figure 1 applies to the hierarchical relationships in the three social systems, while Figure 2 applies to the non-hierarchical relationships. To use the continuum, the reader should try to think of the person in authority as being removed, or only such aspects of his role being included as are not related to his authority. Some may deny that this is possible, but in actual practice people often think in terms of what would happen if a given leader were not there. When members consider changing leaders, they imagine how the social system would work with the present leader divested of his

⁵⁶E. D. Chapple and C. S. Coon, *Principles of Anthropology*, New York: Henry Holt and Co., 1942, p. 360.

⁵⁷See Toennies, *op. cit.*, p. 21.

⁵⁸See Henderson and Parsons, *op. cit.*, pp. 56-60, for a discussion of variations of this type.



office and the new leader in the position. When cooperatives discuss the relative merits of this or that organizational arrangement, variations of authority patterns are considered. Here we are merely carrying the process of abstraction one step further.

Many of our most meaningful interactions are with equals, with no authoritarian influence of any consequence present. To understand a system the nature of these relationships must be analyzed. The first four categories were treated above under the discussion of hierarchical relationships and each item will not need additional illustration. Using the highly abstract means of viewing the familistic *Gemeinschaft* group, the Amish family, in comparison with the *Gesellschaft*-like group, the Government division, one finds that they differ in solidarity, traditionalism, sacredness, absorptive power, and affectualism chiefly because the familistic *Gemeinschaft*-like group is composed of people who have known one another from childhood. The members of the government bureau are more frequently friends and associates who have known each other for a fairly short period. Although great, the Amish family's solidarity is lessened by the tremendous emphasis placed upon success in farming, which often conflicts with the attempt to keep up the taboos on secular usages and things on the other. See Figure 2.

Integration or Extent of Organization.—Sorokin has called attention to the fallacy of many sociologists in considering the qualities "solidary" and "integrated" as one and the same thing.⁵⁹ In a solidary group the members all possess the same basic value orientation regardless of the extent to which they are absorbed into the group. When groups manifest integration there is true teamwork and the members are absorbed in the group's activities. Members are also greatly influenced by the roles, authority patterns, rights, duties, norms for determining status, rewards and sanctions, and social action generally. Since our discussion here is of non-hierarchical interaction, we are concerned with roles, insofar as they are not related to authority. An interesting role in complex systems is the hail-fellow-well-met who frequently glosses over real or apparent conflicts.⁶⁰

Integration of the Individual's Roles Within and Outside the System.—One of the most important therapeutic uses of sociodrama, a new but rapidly developing technique, is assisting individuals and groups to understand emotional disturbances due to conflicting roles and the concomitant lack of

⁵⁹Sorokin, *op. cit.*, pp. 94-95.

⁶⁰F. L. W. Richardson, "African Tribesmen," *Applied Anthropology*, Vol. II, No. 3, June 1943, p. 48.

integration of social systems in which these exist.⁶¹ There are, of course, many apparently unavoidable reasons why conflicting roles exist, and society has developed many means of cushioning or controlling these conflicts. Other conflicting roles may be eliminated.

Of the two continua related to roles in non-hierarchical arrangement the prevalence of conflicting roles is the most useful in placing an organization along the continuum of familistic *Gemeinschaft* and contractual *Gesellschaft*. The truly familistic *Gemeinschaft* type of social system will discourage participation in roles on the outside which are not compatible with roles within. A church would not permit its minister to be a barkeeper, for example. In fact, the blanket or unlimited nature of the responsibilities and rights within the church, as an example of a familistic *Gemeinschaft* system, would prevent the minister's children from engaging in roles outside the church which would reflect upon the minister's status. It is, of course, of vital importance to the family what roles children play outside. The continuum here discussed extends from familistic *Gemeinschaft* to contractual *Gesellschaft*, leaving the compulsory *Gesellschaft* category as a mixed type. In the case of the contribution of specific services required by the "office" for which he is employed, anything which does not interfere with this responsibility is unimportant.

Although many factors are related to functional insanity and suicide, available evidence points to the conclusion that the greater the number of conflicting roles people must perform both in and out of the social systems in which they function, the higher the rates will be. Lowest rates are found where such conflicting roles do not exist.⁶² Ranking of the three systems on the basis of the integration of roles, as shown in Diagram 11, is based largely upon impressions gained from conversation with the members of each of the systems. No doubt more quantitative methods for comparing social systems will be developed.

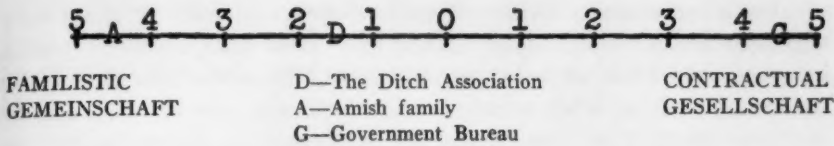
⁶¹See J. L. Moreno, *Sociodrama, A Method for the Analysis of Social Conflicts*, Psychodrama Monograph No. 1, New York: Beacon House, 1944; Leland P. Bradford and Ronald Lippitt, *Supervisory Training for Group Leadership*, Cambridge: Research Center for Group Dynamics, Publication 4, 1945 and S. D. Hoslett, *Training in Human Relations*, New York: American Management Association, 1946. Reprinted from *Personnel*, Vol. XXIII, No. 2. See also J. L. Moreno, "The Concept of Sociodrama," *SOCIOMETRY*, Vol. VI, No. 4, November 1943, pp. 434-449.

⁶²For a brief summary of the various studies on suicide see, Sorokin, *op. cit.*, pp. 8-13. See also P. A. Sorokin, "The Evolution of the Soul," a lecture on the William F. Ayres Foundation at Plymouth Congregational Church, Lansing, November 2, 1945.

Diagram 11

Required Integration
of Roles in and
Out of System

Roles Outside
of System
Irrelevant



INTEGRATION OF ROLES WITHIN SYSTEMS

A.—Extent to Which People Play Compatible Roles in One System.—

A common cause of frustration results when an individual attempts to play conflicting roles within a system. This will, of course, have its effect upon the system which requires that people play conflicting roles.

In situations such as large slave camps or chain gangs there are many conflicting roles played by members of the systems. Thus there is the "turn-tail," "stool pigeon," and "informer" who tries to get prestige by making himself useful to the masters. On the other hand, there are those who may be organizing a revolt or escape. In large factories, the foreman has been called the "in-between" man.⁶⁸ In the army unit, the sergeant may resemble a foreman in this respect. In factories and in the army, the management and commissioned officers, respectively, constitute social systems, workers and enlisted men being outsiders from some points of view. Foremen and non-commissioned officers may be "caught in the middle" or frustrated by responsibilities to two systems. In colleges, department heads are supposed to play the role of the scholar or the researcher, as well as the administrator. The same is true of the government division. Anyone who has tried to play both of these roles knows that they conflict at many points.

B. *Integration of the Roles Played by Different Individuals.*—Even though the roles which a given individual plays may not conflict an organization may suffer from lack of integration due to conflicting roles in a system. To the extent that channels of communication are open and groups are solidary in the sense that they have only one integrated value system, there should be no conflicts between different individuals due to roles which are conflicting. However, anyone in a large organization has had experience with roles or positions which are working at cross purposes. The more stable, older, and smaller the organization, the less this is apt to be true. Usually

⁶⁸Applied Anthropology, Vol. IV, No. 2, 1945, entire issue.

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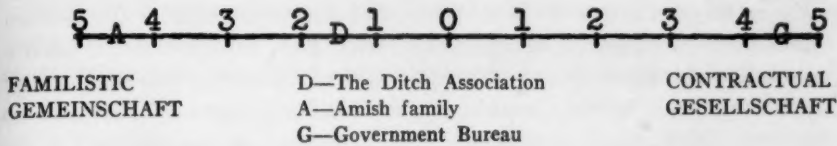
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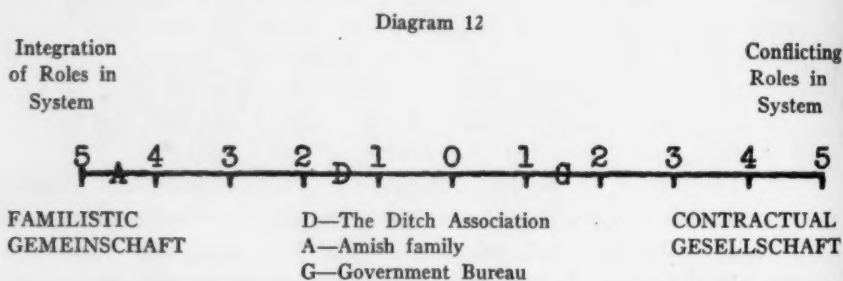
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⁶⁸ *Applied Anthropology*, Vol. IV, No. 2, 1945, entire issue.

systems which have existed over long periods have eliminated roles which conflict violently or have developed institutionalized means of mitigating the conflict, such as rules of avoidance or joking relationships.⁶⁴ Such conflicting roles in one system are frequently due to the merging of two systems.

In the government division, there were many instances in the growing organization that things which should have been done remained undone because no one knew who was supposed to act. There was also considerable frustration resulting when several people of different specialties tried to do the same thing. Until one person was designated as responsible for the handling of foreign visitors, not only the guests but also the numerous persons who had assisted them were disturbed.

In another bureau there were several divisions doing work in the same field and on occasion conflicts developed when divisions attempted to develop work which could have been carried on by a number of individuals in other divisions. One division leader who did not like administration joined another division, thus moving down to the level of section head to be able to devote more time to research and soon found that he lost most of his staff to his benefactor. In some divisions there frequently seemed to be little "rhyme nor reason" to why people were assigned specific undertakings. This leads to considerable frustration. The frequency of frustration due both to occurrence of conflicting roles played by different persons in the same organization and the same individual in different roles for our three social systems are depicted in Diagram 12.



Community of Fate—Extent All Are for One, One for All.—As good as any criterion for the placing of systems along the continuum of familistic Gemeinschaft, contractual and compulsory Gesellschaft is the extent to which individuals share in good and bad fortune. The extent to which members

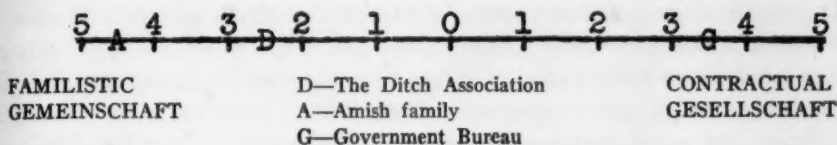
⁶⁴Robert Lowie, *The Crow Indians*, New York: Farrar & Rinehart, 1935, pp. 22-23, and Chapple and Coon, *op. cit.*, pp. 313-314.

of equal status of the system felt obligated to assist fellow members in sickness and misfortune can be used to rate social systems in this respect. The reader will remember that a similar continuum is used previously for the responsibilities of authorities. It is the hypothesis of the authors that anomie and accompanying high suicide rates will be associated with societies where there is a minimum of sharing misfortune. The three systems under consideration have been rated along this continuum as indicated in Diagram 13.

Diagram 13

All responsible for
each, each responsible
for all

Limited
responsibility



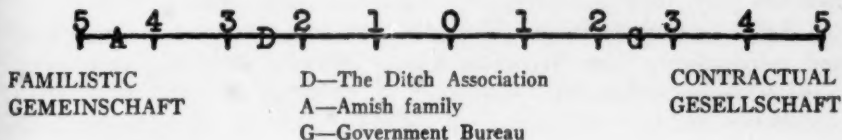
Confined Versus Distributed Interaction.—Few differences in social systems are more important than the extent to which these systems absorb the interaction of their individual members. One of the most significant differences between systems of the familistic Gemeinschaft type and organizations of the contractual Gesellschaft type is the extent to which the interpersonal relations of the members are carried on within the systems being compared.

Since we are considering non-hierarchical relationships, we shall use the proportion of the interactions of all members of the separate systems which are with the other members in each of the respective systems as a basis for rating the continuum from interaction confined to one versus interaction distributed to many systems. Diagram 14 shows the ratings for the Amish family, the ditch association, and the government division.

Diagram 14

Members' Interaction
confined to
System

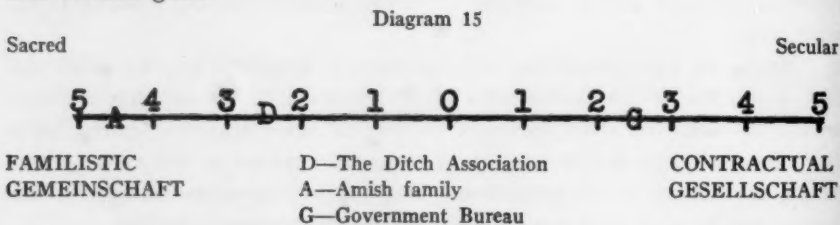
Interaction
distributed to
many systems



General Value Orientation—Sacred Versus Secular Norms.—Merton⁶⁵ has typed action systems in accordance with the relative emphasis placed upon cultural goals as contrasted with norms, or what he calls institutionalized means. When great stress is placed upon the latter and there is stress on the cultural goals, ritual results. In a system where preservation of the group, its inter-personal relations, culture, and way of life is the only really important goal, the importance of specific goals such as profits, will be played down.

Perhaps one can bring the difference between sacred and secular on the continuum in connection with general value orientation into focus by considering the manner in which the norms are regarded. If they are thought of as ways of maximizing returns and minimizing effort, they are secular. If they are so respected and revered that violation results in a general emotional upheaval which may require retribution, they are sacred. The many Amish taboos on various efficient means of production, marketing, and other regulations which prevent the group from being "profaned by the world" indicates the sacred nature of the norms of the Amish. Within the family, as well as in the community generally, many such norms exist.

In the case of the government, the norms were less important than results, although even here emphasis on norms even though they were secular or "red tape" and other restricting influences cut down efficiency. The three systems are ranked, as shown in Diagram 15, in accordance with the sacredness of their goals.



Other Norms and Aspects of Value Orientation.—If one were to attempt to depict the differences in social structure and value orientation between the Amish family system and the Government Division system, nothing would be more important than the norms which determined status, the roles the members play, their authority, their rights and their duties.

Social systems determine the status of their members, they assign roles and responsibility, they recognize and/or delegate authority, they grant

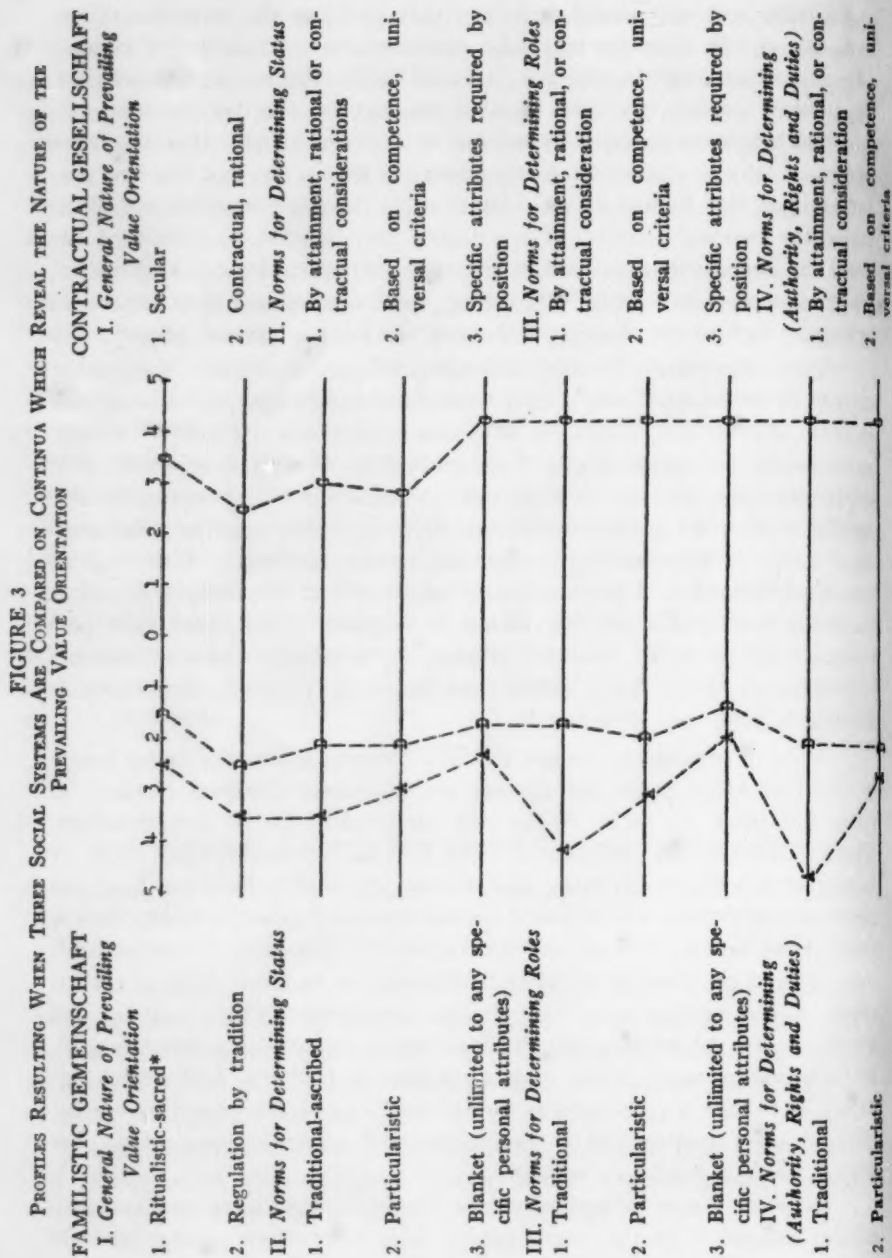
⁶⁵Merton, *op. cit.*

rights, they mete out punishment, and they give rewards according to various norms. An older son may take over the farm from the father because of traditional norms. In this case, it would be the custom of primogeniture. In another instance, the most capable son may be awarded the farm. In still another, some purely personal factor unrelated to any general system of reward may be responsible for assigning the farm. The fact that one son, for example, had hunted with his father while the other sons had not, illustrates the personal element. The category particularistic is broadened beyond the item personal as used in preceding sections to include such special traits as origin, race, and so forth not supposed to be related to any universal principal, such as the practice of choosing the most competent person.

The status system of the Amish was previously described. Many other aspects of the Amish family's value orientation could be described to explain the comparative ranking given it on the continua shown in Figure 3. Whereas status in the Amish family is determined by birth and tradition, it is dependent upon personal qualities and is not closely related to functionally specific attributes. In the government division, status depends upon technical competence, bargaining powers, and specific attributes. A shortage of personnel trained in a given specialty may result in relatively high status for those having this training. Status is supposed to be based upon performance records which, in theory at least, are based upon objective, measurable criteria. In the Amish family such functionally specific characteristics or criteria have very little weight.

In the determination of roles, the basic determinant for the Amish family is tradition which makes for age and sex groupings. Personal factors also enter but there are never rigidly and functionally specific considerations. There is considerable division of labor but few extremely rigid rules. A family with few sons and many daughters is permitted to have the daughters perform many tasks which would normally be performed by sons. In the government bureau, rational and contractual considerations determine one's role, or what one does in the "office." More and more use is made of various types of test to determine interests and capabilities. One's training and specialties are determining factors. Whether or not one is qualified to work in farm management, demography, farm finance, land use, agricultural statistics, or to take responsibility in foreign areas can be determined by various tests, by one's training, and by consultation with experts in those fields under whom one had previously worked.

By what norms is authority and accompanying rights and responsibilities assigned? In the Amish family, it is determined in large measure

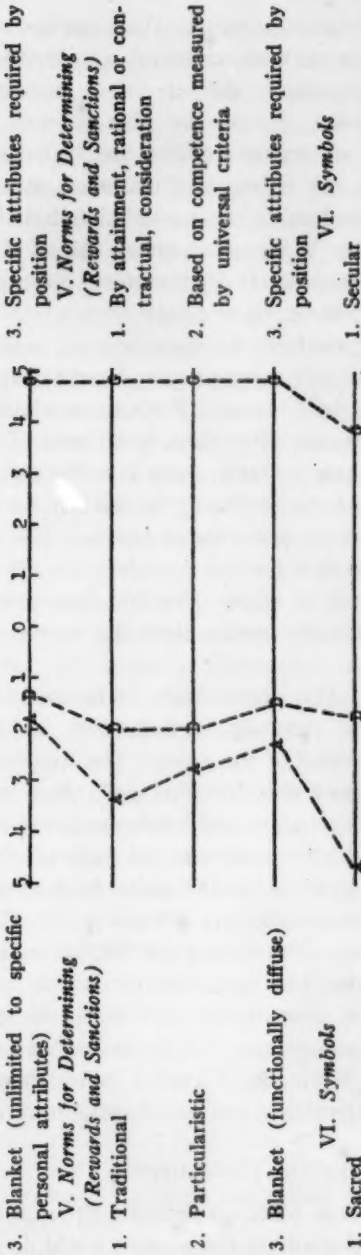


...mentary, rational, or con-
tractual consideration

2. Based on competence, uni-
versal criteria



2. Particularistic



A—Amish Family
D—Ditch Association
G—Government Division

*Interaction, personalities and culture of social systems are ends in and of themselves—ends undifferentiated from norms and means.

by birth although personal factors also enter. The same holds of the Ditch Association. In the government division, technical competence is the determining factor, but bureau chiefs may be shifted with changes in the administration for particularistic reasons. Persons in other seats of authority are placed in these posts because of executive ability and technical competence.

As indicated in Figure 3, the norms here discussed, move on the continuum from familistic *Gemeinschaft* to contractual *Gesellschaft*. The norms in compulsory *Gesellschaft* may be found at either end of this continuum, but force is the dominating feature. It is, therefore, designated as mixed and is omitted. Those who handle slave gangs or prisoners in a concentration camp may rigorously conform to universalistic principles as prescribed by regulations or they may engage in the most sadistic punishment of persons because of particularistic reasons. Since these continua have been discussed previously in other connections, there is no need of indicating the criteria used in ranking the three systems under consideration in Figure 3. Note that on our continua, the Amish family is much more typical of the familistic *Gemeinschaft* than is the government bureau. Institutionalization of various of these norms makes a family rate lower on the particularistic indices than would a boy's gang or clique. Nevertheless, more personalism and particularism enters the family norms than the norms of an efficient government bureaucracy.

Sacredness of Symbols.—The three units being compared all have symbols which represent them. Actually, each member and especially the leader of a group, may be a symbol of the group. The Amish family, a unit in the larger social system, wears a differentiating garb. As a means of rating the units, the sacredness of their names and heirlooms are used as symbols. One might consider the loss which members of the system might feel if the names, heirlooms, and other symbols of the units were changed. To the Amish family, the loss of name would be a great loss; to the government bureau the loss would be small. The loss of the family heirlooms some of which have little intrinsic value but great imputed value, would be very sorely felt by the family. The government units would be less concerned. There are other symbols of these groups, but the names and heirlooms will demonstrate the concepts involved. See Figure 3 in which other continua related to the general value orientation and social structure are included.

SUMMARY AND CONCLUSIONS

That bureaucracy as a large scale cooperative structure is efficient is attested by its prevalence, particularly in the western world, in modern times.

The last two world wars were struggles between huge bureaucracies, and future wars will unquestionably depend largely upon the efficiency of bureaucracy along with natural resources. Among the most important features of the dynamic and powerful nations today is the prevalence of bureaucracy. The prevailing organization of the totalitarian states may have more features which are Compulsory Gesellschaft-like than are found in the so-called capitalistic democracies. This be as it may, all nations of any military or industrial importance are characterized by bureaucracy.

Even though Gesellschaft-like organizations such as the army, business and industry are more efficient than familistic Gemeinschaft-like organizations, experience has demonstrated that morale in the bureaucracies can be increased if some of the characteristics of the familistic Gemeinschaft organizations can be introduced. The more frequent the two-way interaction between authorities and subordinates, for instance, the higher will be the morale in all probability. Likewise, the greater the face-to-face relationships and the greater the solidarity of the relationships, the higher will be the morale. The depersonalized, secondary, rationalized, and secular relationships in formal bureaucracy, when coupled with the high mobility resulting from assigning status, roles and rewards on the basis of attainment rather than upon family or other criteria can be demonstrated to be related to, if not a cause of, great personal frustration and insecurity. The very groups which attain positions of authority in the organizations and professions characterized by these traits have the highest suicide and functional insanity rates.

Such movements as Nazism⁶⁶ and present day emotional religion are not unrelated to the frustration and insecurity which characterize modern middle and lower class life. Toennies and others have called attention to the satisfaction which comes to workers in large impersonal industries from participation in the social life of unions where some Gemeinschaft-like features are emphasized.⁶⁷ Much of the insecurity and consequent frustration of present day society is related to the growth of large scale organizations which have the characteristics of the contractual Gesellschaft. This influence extends to the rural areas and has caught up the farmer in the price and market regime which it created, and as a result the farmer has lost much of his former independence and security.⁶⁸ The German peasant residing in

⁶⁶Loomis and Beegle, *op. cit.*

⁶⁷Ferdinand Toennies, *Fortschritt und Soziale Entwicklung, Geschichtsphilosophische Ansichten*, Karlsruhe: 1926.

⁶⁸Carl C. Taylor, *Rural Sociology*, New York: Harper and Brothers, 1933, Chapter XXVIII.

the family-sized farming areas often supported the Nazi movement, while many urban labor groups sought security through labor, socialistic, and communistic groups in the cities.⁶⁹

Roethlisberger and Dixon,⁷⁰ in their study of the Western Electric Company's plant, and Likert,⁷¹ in his study of life insurance salesmen, have demonstrated that industry and business could improve morale by introducing certain aspects of the familistic *Gemeinschaft* into their organizations to offset frustration precipitated by the impersonal aspects of bureaucracy. Attempts to restrict output very often are related to the insecurity patterns of workers. It is obvious, of course, that great frustration would be brought about by the mixing of some familistic *Gemeinschaft* traits with some *Gesellschaft* traits. If agencies resorted to particularistic and personal criteria for awarding promotions and status in large scale organizations, morale would most certainly suffer. Nevertheless, much of the insecurity in large scale organizations is inherent in the strangeness, impersonality, and secularization of the organization.

The Likert study cited above, for instance, indicates that salesmen were most concerned about the attention their supervisors gave them. The German army attempted to overcome some of the insecurity of bureaucracy induced by the rational, functionally specific, and secondary nature of the Prussian Army by having unit officers learn the birth dates of their men so that they could be congratulated. Although such innovations represent a change in techniques rather than a change in value orientation, the fact that they are used proves that such bureaucracies lack features which are felt to be necessary for high morale. Mayo and Lombard⁷² demonstrated that in those departments of the aircraft industry during the war in which the interaction pattern and the type of authority was *Gemeinschaft*-like, labor turnover and absenteeism were lower.⁷³

⁶⁹Loomis and Beegle, *op. cit.*

⁷⁰Roethlisberger and Dickson, *op. cit.*

⁷¹R. Likert, *Morale and Agency Management*. Hartford, Conn.: Life Insurance Sales Research.

⁷²Elton Mayo and Geo. F. F. Lombard, *Teamwork and Labor Turnover in the Aircraft Industry of Southern California*, Bureau of Business Research, Harvard University: Bureau of Business Research, 1944.

⁷³The authors call groups with high morale (in the plants studied) "natural" and "family" groups. One supervisor who was particularly effective in building morale was described as follows: "Z gave most of his time to facilitating the work of others, . . . He saw the problems of maintaining balance among technical efficiency, organization of operations, and spontaneity of cooperation. . . . Z listened to a new employee, introduced him to his companions, tried to get him congenial work associates. . . .", *Ibid.*, p. 19.

If society develops a means of introducing elements of security into modern industry and government, whether based upon features of security characteristic of the familistic *Gemeinschaft*, the voluntary *Gesellschaft* or both, a tremendous force will be released for productive use. This is not to say that an automobile plant can be modeled after an Amish family. Neither would the desired results necessarily be accomplished by turning private bureaucracy into government bureaucracy. The point is that those who direct bureaucracies of either type should realize that workers who are not secure in their family, community, and occupational lives are not likely to have high morale in the bureaucracies in which they work.

It is the authors' belief that important in the explanation for back-to-the-land movements during depressions and for the current phenomenon of the purchase of small farms on the part of workers, is the feeling of futility and insecurity in the organizations characterized by contractual *Gesellschaft*. We also believe that underlying rural-urban conflict and the mushrooming fringe areas around the cities, is the fundamentally different attitudes of people with basically familistic *Gemeinschaft* orientations and those with basically contractual *Gesellschaft*-like orientations. Underlying much of the unrest and disequilibrium among both rural and urban groups today is the loss of elements which have here been described as being of the nature of the familistic *Gemeinschaft*.

A MATRIX APPROACH TO THE ANALYSIS OF RANK AND STATUS IN A COMMUNITY IN PERU*

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It is assumed that some relationship exists between the distribution of wealth and the social structure. Consequently, in analyzing rural society in a highland village of Peru, it seemed appropriate to begin with the differences in wealth among families as a basis for stratifying families for sociological analysis.

But the problem here conceived is not simply one of grouping families according to some measure of wealth. A scale based on the distribution of such items as income, land, and property delineates families only in a taxonomic sense. Oscar Lewis, in order to rank the families of a Mexican village according to their wealth, devised a point scale for converting all items of wealth to pesos, using one point for every 100 pesos of value.¹ The significant features of the frequency distribution of 853 families on this "economic point scale" were: (1) the extremely wide range of wealth differences from zero to over 400 points; (2) a rather unequal distribution of wealth indicating widespread poverty. Although with such a scale it is possible to determine the relative economic status of every family in the village, it does not provide us with a classification into sociologically significant groups of families based upon human interaction.

It is the intent of this exploratory paper to present a method of classifying families of a community into sociologically significant classes by combining quantitative information on family incomes with visiting relationships of the same families, thus combining economic and social factors as the basis of stratification.

In the village of Panao near Huanuco, Peru, located between the high sierra plateau and the montana, we tested our hypothesis. Informal visiting was taken as the social relationship best meeting the requirements

*Data for this study were gathered when the author, as a member of a party of the Inter-Governmental Committee on Refugees, was investigating colonization possibilities for displaced people in Europe. Chief of party for the Andean Countries was Charles P. Loomis, Head of the Department of Sociology and Anthropology at Michigan State College under whom the author is preparing a Ph. D. dissertation on data gathered to measure colonization possibilities in the Huallaga river valley of Peru.

¹Oscar Lewis, "Wealth Differences in a Mexican Village," *The Scientific Monthly*, Vol. LXV, No. 2, August, 1947, pp. 129-30.

for grouping families after they have been ranked according to wealth. Visiting behavior is shown to be class-typed, that is, visiting families usually are presumed to represent either one class or adjacent classes. Furthermore, visiting families are assumed to have definite behavior patterns which are fairly uniform for all members of the community and which follow rather closely the behavior patterns of the particular class level on which they function.

It was decided to use a single criterion of wealth—the family income for one year—as the quantitative measure by which the families might best be ranked. No elaborate index of wealth differences seemed necessary to distribute the families according to economic status, although a 2- or 3-year average income would have been more desirable. Although Lewis used twelve items most frequently mentioned by local informants as forms of wealth, all are a means of production and a source of income.²

Each family was personally interviewed and asked to reply to the following: *Name up to three families whom you visit most frequently.* In addition, the respondent was asked to specify the type of relationship existing between him and the family selected, namely, kinship, godparent (*compadrazgo*) or friendship. At the same time, the interviewer secured specified budget data about the income of the family which provided the necessary information for classifying the family by amount of income. The range in distribution of income was from zero soles to S/.10,800. Table 1 shows the income distribution of the 161 families living in the village by class intervals of S/.1000.

More than half (56 percent) of all visiting behavior was between kinfolk. The significance of family visiting among these families makes it highly likely that visiting is class-typed to a large degree as we had assumed. Studies have shown the importance of family in placing individuals in the social hierarchy.³ Friendship, too, plays an important role in visiting behavior, constituting the basis of 36 percent of all visiting according to respondents. Of lesser importance is the godparent relationship which constitutes the basis of only 8 percent of the visiting relations. The latter system is known as *compadrazgo* which is a complex of formalized friendships and fictional kinship. In describing this system in Mexico, Foster writes that usually persons of the same economic status are chosen "since

²*Ibid.* p. 128.

³William L. Warner and Paul S. Lunt, *The Social Life of a Modern Community*, 1941, p. 90.

TABLE 1
INCOME DISTRIBUTION OF THE 161 FAMILIES IN PANAQ, PERU, 1946

Income Class	Families	
	Number	Percent
Total	161	100.0
Under 1,000 soles ¹	43	26.8
1,000-1,999	49	30.5
2,000-2,999	27	16.8
3,000-3,999	20	12.4
4,000-4,999	11	6.9
5,000-5,999	2	1.2
6,000-6,999	4	2.4
7,000-7,999	2	1.2
8,000-8,999	2	1.2
9,000-9,999	0	.0
10,000 and over	1	.6

¹One sol is equivalent to approximately 15 cents U. S. money.

intimate relations between families of widely differing economic status almost invariably are strained."⁴

Visiting choices are conceived merely as reflections of standardized modes of behavior which make up part of the institutional relationships connected with the family, the *compadrazgo* system, and friendship patterns of the village. Visiting behavior at the same time involves symbolic acts associated with the above mentioned institutions that influence and condition the behavior of families. Thus, visiting relations are not social facts extracted from the life of the village, but they represent interactions between families who behave to one another in a standardized manner in carrying on the institutional life of the village.

It is reasonable to expect that kinship, *compadrazgo*, and friendship constitute only a few of the variable factors that enter into visiting behavior. Certainly, factors such as occupation, age, propinquity and cultural traits play as significant if not more important parts in determining *who* visits *whom*. Some of these latter factors could be used to check the delineation of the class structure through the employment of income and visiting data.

But how significant is income of the family in determining visiting behavior? One measure of significance is to correlate statistically the income level of the family making the choice with that of the family selected.

⁴George M. Foster, *Empire's Children, the People of Tzintzuntzan*, Publication No. 6, Institute of Social Anthropology, Smithsonian Institution, 1948. p. 263.

The coefficient of correlation between the incomes of a selector family and family selected was .39, a moderate correlation. However, it should be noted that the rate of correlation varies between first, second, and third choices, coefficients of correlation being .56, .14, and .41 respectively. Income is relatively more important in deciding the first visiting selection than in either second or third choices.

The problem thus clarifies itself: *To present a technique for delineating a community into socially stratified classes of families so as to provide the basis for comparative analysis of statistical data describing individual families.*

Briefly, the procedure consists in structuring the group of 161 families of the village according to income by means of a matrix of visiting selections; then by statistical and visual manipulation of the matrix to delineate distinct groups of families into significant vertical classes.

But before we proceed with a description of how a delineation of social classes might be done employing sociometric techniques, it is necessary to establish the village as a significant social group. Not only is it necessary to set apart the significant social groups in a vertical sense, but the unit we are attempting to analyze must be bounded geographically, that is, in the horizontal sense.

A general principle of integration is that of propinquity and contiguity. We may expect to find more visiting within the municipality than outside. People can only neighbor and visit when they are within reach.

Panao is an ancient highland village which serves as the seat of provincial and district government. But it also has its own municipal government and townspeople are thus distinctly set apart from the surrounding countryside. The countryman tends to settle in smaller clusters of houses distinct and at some distance from the village. About 40 percent of the families living in the village have a farm.

The pueblo proper is some six blocks wide and nine blocks long (each block about 50 meters square). The village is compactly, even densely settled around a single small plaza. The Catholic Church and schools serve both townspeople and countrymen and are the principal agencies to which the population is attached.

Outside contacts with neighboring villages are limited because of lack of communication and transportation. Spanish is the dominant language, but Quechua is the *lengua materna*⁵ of 12 percent of all heads of families. Most people speak Spanish and many speak both Spanish and Quechua.

⁵The language first learned.

The most important occupations represented are spinster, husbandman, storekeeper, shoemaker, carpenter, washerwoman, and trader. Panao serves to a large extent as both market village and the residence place of farmers.

Local military and judicial authorities are centered in the village, both acting as important agencies of social control. Limited social services, such as a medical dispensary and public welfare services, are also located in the village.

This brief sketch of the social organization of Panao suggests that sufficient factors or ties exist to bind the people together as a functional unit. The natural community in this case can be approximated by using the municipality as the unit of observation because it is clearly set apart by locality of residence and relatively high density of population. There is scarcely a problem of drawing a boundary between Panao and all other settlements in the surrounding area because compact village settlement generally prevails.

Accepting interaction, the medium of which is communication, as the cohesive principle of community, we must establish fairly definitely that the territorial distribution of population delineated as Panao plus its related physical structures and utilities are sufficiently organized so as to set it apart from other social groups. In other words it must be structured internally having not only function and territorial significance, but in addition, certain norms by which the people live and roles which they fulfill.

In accepting interaction as the cohesive principle in community life, we must first establish that visiting behavior, the social factor which we have singled out as significant in structuring social class, is at the same time fairly internalized territorially so that interaction behavior in regard to visiting is coterminous with municipality. Let us test by empirical data whether Panao meets this prerequisite of community.

First, let us divide the 161 families into (1) those who reported visiting entirely within the village, (2) those who visit partly within and partly outside, (3) those who visit entirely outside, and finally, (4) those not visiting at all.

Families visiting entirely within	43 percent
Families visiting partly in and partly out	23 percent
Families visiting entirely outside	8 percent
Families not visiting in or out	26 percent

It is clear from these figures that two-thirds of all families reported visiting within the village and more than two-fifths did *all* their visiting within.

A rather large number of families, more than a fourth, did not visit either within or without. If we factor out a few of the possible reasons for non-visiting families, from table 2 it is shown that high income families tend to be non-visitors. Higher income families are not so prone to choose other families for visiting.

Table 2 also indicates some relation between non-visiting and families who reported "sleeping on the ground," those using *ojotas*, *poncho* and *chullo*, and, finally, those going barefoot. All these traits are associated with Quechua culture.

Calculating rates of interaction by the equation $\frac{P}{N} \times 100$, where P equals the number of visiting families and N the total number of families in the village, we find that the visiting interaction rate was 66 percent within the village.

TABLE 2
PERCENTAGE OF FAMILIES REPORTING SPECIFIED CHARACTERISTICS CLASSIFIED
BY VISITING BEHAVIOR, PANAQ, PERU, 1947

	Visiting selections			Total
	Within village	Outside village	Non-visiting	
Income class:				
Under 2,000 soles	69	5	26	100
2,000 to 4,000	68	9	23	100
4,000 and over	50	18	32	100
Culture item:				
Sleep on the ground	44	12	44	100
Go barefoot	64	0	36	100
Use <i>ojotas</i> ¹	42	8	50	100
Use <i>poncho</i> and <i>chullo</i> ²	61	4	35	100
Use shoes	70	9	21	100

¹Indian sandals.

²*Poncho* is a cloak like a blanket with a slit in the middle for the head; *chullo* is an Indian headgear.

Thus we reasonably conclude that the group of families living in the village of Panao functions as a unity insofar as the bonds of visiting are concerned. These bonds undoubtedly reflect some of the interdependence existing among the families, ties that infuse into their minds feelings of oneness and community of interest.

Having established the community in its horizontal respect, we proceed to an analysis of its vertical aspects, its social stratification.

Visiting behavior can be conceived of as spontaneous activity in which under normal situations there is equilibrium in the internal organization. The entrance of a stranger into the village would constitute a new stimulus and necessary adjustments in the rate of interaction. When the stranger retires, the village may reasonably be expected to return to its previous state. Furthermore, the initial process in establishing a relationship with a stranger is that of assigning him a position or role with relation to the village. All this has been demonstrated empirically many times; we need not belabor this fact.

What is particularly important for our present analysis is the conceptualization of a social system as being in equilibrium when interaction rates of which the equilibrium is composed remain constant. A family's position in the social structure is determined by its ability to attract responses and its rate of response.

Within the village, therefore, we may expect to find three classes of families exhibiting behavior as follows:

- A. A terminal class of families who tend only to receive visiting selections.
- B. An intermediate class who tend both to select and to be selected.
- C. A class of families who tend only to select other families.

Our problem becomes simply that of testing the hypothesis that by use of visiting behavior (interaction) and an arbitrary classification of families according to income, we can delineate groups of families into at least three classes: A *terminal* class; an *intermediate* class; a *selector* class.

STRUCTURING THE MATRIX OF VISITING SELECTIONS

Forsyth and Katz⁶ have employed a matrix approach to the analysis of groups. Their technique has been applied principally to sociometric analysis of social structure where the type of question asked may be illustrated by such questions as: With whom do you wish to work? With which people do you definitely not want to work?

It seemed to the author that a matrix might be manipulated in such a way so as to produce one which exhibits the class structure graphically in a standard form. Consequently, the 161 families were arranged in rank order according to the amount of income reported. Each family was then assigned a position from high to low on the main diagonal starting in the

⁶Elaine Forsyth and Leo Katz, "A Matrix Approach to the Analysis of Sociometric Data," *Sociometry*, Vol. IX, No. 4, November, 1946. p. 340.

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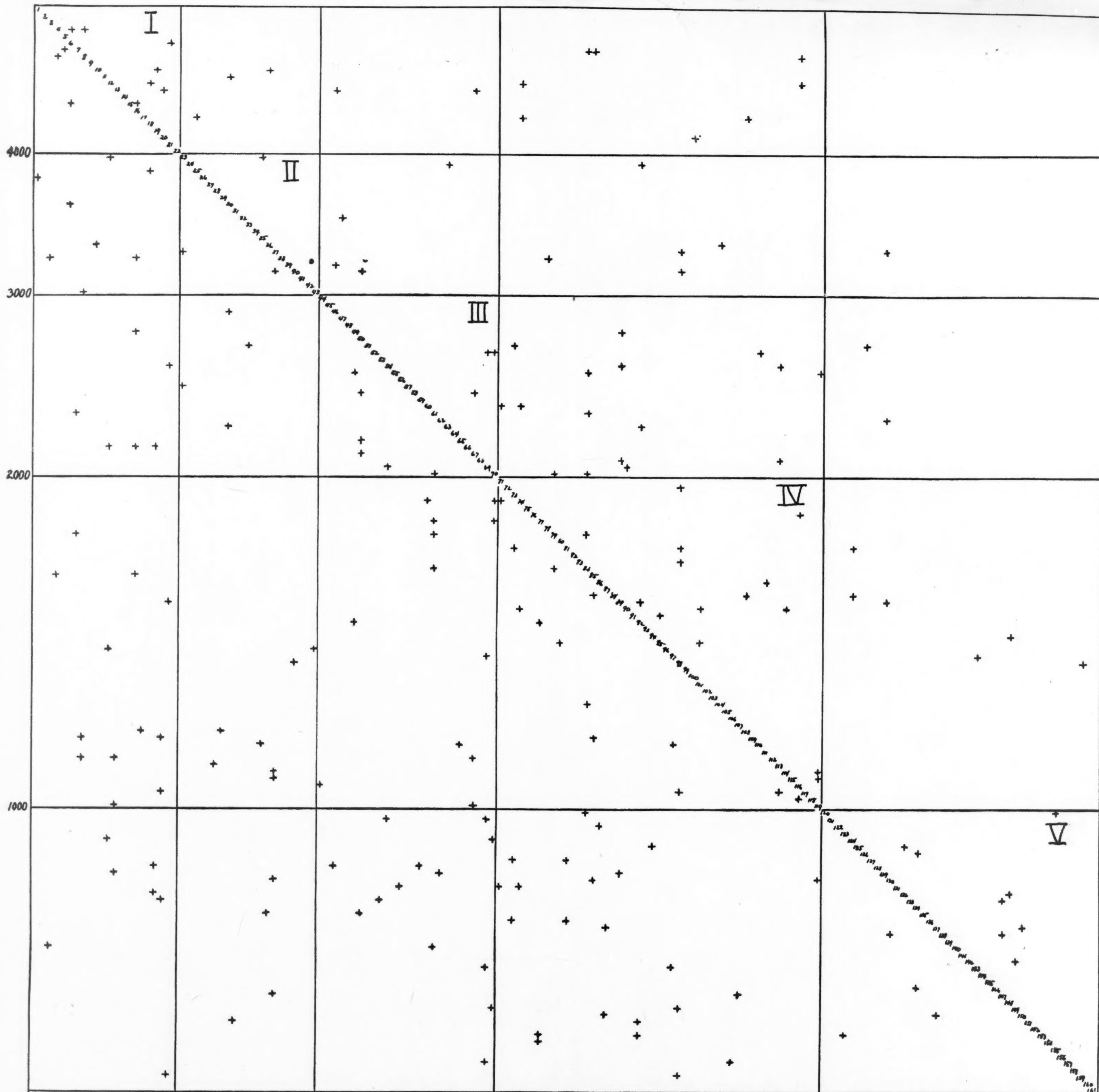
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 + VISITING CHOICE
 I,II,etc. INCOME CLASSES

FIGURE 1.
 MATRIX OF VISITING CHOICES, PANAO, PERU—1947.

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upper left hand corner. (See figure 1.) Thus the family with the lowest income is found in the lower right hand corner.

We start, then, with a square matrix of choices of dimension $N \times N$, where N is the number of families in the village. Since our interview question allowed for a maximum of three choices per family, it is clear that relatively few of the potential number of choices will be made. A + sign is drawn in each cell where selecting family (row) intersects selected family (column). A total of 284 choices (represented by 284 +'s) are recorded in figure 1. The matrix is composed of numbers along the main diagonal according to the rank order of income, +'s for visiting selections, and ranks for indifference or no mention.

DELINEATING THE CLASSES

If chance were all that entered into visiting behavior, we would expect to find the +'s scattered rather haphazardly over the matrix. Such is not the case. A scrutiny of the matrix of selections shows immediately that there are more selections to the left of the main diagonal than to the right. This means that families tend to select above their own income levels, represented by the main diagonal. In fact, a count reveals that 129 choices were to families above the income of the family making the choice and only 86 choices were below.

If chance were the only factor, we would expect 107.5 choices to the left of the main diagonal and 107.5 to the right. According to the Chi Square test for significance, the difference between the actual number of visiting choices and expected choices is highly significant.⁷ Thus at this point we can tentatively conclude that visiting behavior is more elastic upward than downward, tending to support the hypothesis of a selector class and a selected class.

The next step is to group the families arbitrarily into income classes with 1,000 soles intervals up to 4,000 soles and an open class above. Each income class is represented by a square along the main diagonal as portrayed in figure 2. The size of each square corresponds to the number of families composing it. We now have the village structured graphically into five income classes as follows

Class I	22 families over S/.4,000 income
Class II	20 families S/.3,000 to 3,999 income
Class III	27 families S/.2,000 to 2,999 income
Class IV	49 families S/.1,000 to 1,999 income
Class V	43 families under S/.1,000 income

⁷ $\chi^2 = 7.5$ With 1 degree of freedom $.001 < P < .01$.

The significance of each class delimited arbitrarily by income can now be tested by calculating the rate of interaction within each class. This rate will be calculated in terms of the number of visiting choices rather than families as previously. The within-class interaction rates are calculated as follows:

- Class I —44 percent
- Class II —24 percent
- Class III—24 percent
- Class IV —46 percent
- Class V —23 percent

Class I and Class IV are seen at once to be the most internalized groups of families so far as visiting is concerned. (See table 3 based on matrix, figure 2.) This means that almost half of the visiting behavior of Classes I and IV is with families in their own income groups whereas less than one-fourth of the visiting of families in Classes II, III and V is within their own classes.

TABLE 3
OUTGOING VISITING SELECTIONS AS A PERCENTAGE OF ALL OUTGOING SELECTIONS
IN EACH INCOME CLASS

Selecting class	Percentage of outgoing selections in					Total
	Class I	Class II	Class III	Class IV	Class V	
I	44	13	9	34	0	100
II	36	24	16	20	4	100
III	16	10	24	45	5	100
IV	19	10	16	46	9	100
V	11	7	21	38	23	100

Further analysis of table 3 shows that Classes I and IV tend to interact somewhat with one another. The interaction rate based on visiting selections downward from Class I to Class IV was 34 percent, and upward from Class IV to Class I was 19 percent.

It is also clear that Class II tends to select visiting families from Class I, whereas Class III selects from Class IV. (See table 4.) On the basis of the facts regarding selections of families for visiting here presented, it would be reasonable to combine Classes I and II, and Classes III and IV. But we have yet to consider whether there is a significant selector class which in turn is not selected. Analysis of this interaction pattern can be made by calculating the differences between incoming and outgoing visiting

Summary of Visiting Choices by Income Classes

I. 10	3	2	8	0
9	II. 6	4	5	1
6	4	III. 9	17	2
13	7	11	IV. 31	6
7	4	13	23	V. 14

Fig. 2

selections. If a class makes more selections than it receives, it is shown to be predominantly a selector class by that fact.

Class V made only 23 percent of its visiting selections within its own class and yet 61 percent of all the selections received by families in Class V were from within the class. (Compare tables 3 and 4.) In contrast, Class I families made 44 percent of all visiting selections with other Class I families; at the same time only 22 percent of all selections received by families in Class I were from within the class.

TABLE 4
INCOMING VISITING SELECTIONS AS A PERCENTAGE OF ALL INCOMING
SELECTIONS IN EACH INCOME CLASS

Selecting class	Percentage of <i>incoming</i> selections received by				
	Class I	Class II	Class III	Class IV	Class V
I	22	12	5	10	0
II	20	25	10	6	4
III	13	17	23	20	9
IV	29	29	28	37	26
V	16	17	34	27	61
Total	100	100	100	100	100

Occupying a somewhat intermediate position, we find that Class IV made 46 percent of all visiting selections within the class, and at the same time, 37 percent of all visiting selections received by Class IV were from within the class.

Figure 3 presents graphically the differences between classes in the number of incoming and outgoing selections. The chart can be read as follows:

Whereas Class I has 22 more incoming selections than outgoing ones, Class V has 38 less incoming selections than outgoing ones. Class IV has a surplus of 16 incoming as might be expected, while Classes II and III have approximately an equal number of incoming and outgoing selections.

The conclusions now seem clear: (1) Class V is definitely a selector class on the basis of the indifference shown it by classes above it; (2) Class I is definitely a terminal class since it tends to receive a disproportionate number of selections from classes below; (3) Class IV is an intermediate class tending to select into classes above and to be selected from below by Class V.

Differences Between Incoming and Outgoing Visiting Choices By Income Classes

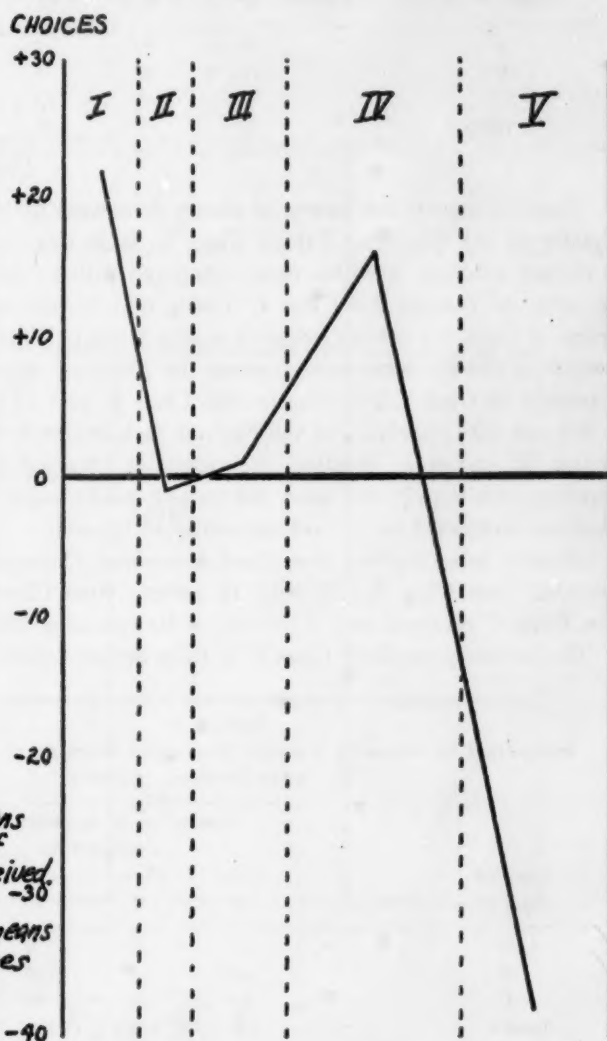


Fig. 3

TABLE 5
PERCENTAGE OF *Outgoing* VISITING SELECTIONS DISTRIBUTED ACCORDING
TO SOCIO-ECONOMIC CLASSES

Selecting class	Percentage of <i>outgoing</i> selections to			Total
	Class A	Class B	Class C	
A	58	40	2	100
B	28	64	8	100
C	18	59	23	100
All classes	32	57	11	100

Figure 4 depicts the matrix of classes delineated by income and visiting behavior of the families. Taking Class A, it is clear that 58 percent of all visiting behavior is within class, compared with 64 percent for Class B, and only 23 percent for Class C (table 5). At the same time, only 2 percent of Class A's visiting behavior is with Class C. The tendency to select upwards is clearly demonstrated when the foregoing figures are compared: 59 percent of Class C's visiting is with Class B, and 18 percent with Class A. We can only conclude, on the basis of such evidence, that an element of prestige or status is affecting the responses received from the question regarding visiting. If this were not so, we would expect to find as many selections downward as upward according to income.

Finally, table 6 shows that Class A received 43 percent of its incoming selections from Class B and only 16 percent from Class C. At the same time, Class C received only 4 percent of its incoming selections from Class A. The tendency to avoid Class C is fully demonstrated.

TABLE 6
PERCENTAGE OF *Incoming* VISITING SELECTIONS DISTRIBUTED ACCORDING TO
SOCIO-ECONOMIC CLASSES

Selecting class	Percentage of <i>incoming</i> selections received by			All classes
	Class A	Class B	Class C	
A	41	15	4	22
B	43	55	35	49
C	16	39	61	29
Total	100	100	100	100

Summary of Visiting Choices By Socio-economic Classes

A	28	19	1
	B		
30		68	8
			C
11		36	14

Fig. 4

SOCIOLOGICAL MEANING OF THE RESULTS OBTAINED

We have had a look at the internal structure of a small community using economic status (income) and social interaction (visiting behavior) as quantitative variables of measurement. The "height" of the social structure has been measured by the range in income of families, its "profile"—number of strata and slope—by rates of social interaction.

Class A, the highest income group, occupies top position in social status as well; both Class B and C respond to the prestige status of Class A. But Class B occupies an intermediate social status as evidence by the response from both Class A and Class C. Lowest status is undoubtedly held by Class C, tending only to respond to the other two classes. Summarizing:

Class A is principally a terminal class.

Class B is an intermediate class.

Class C is an originating class only.

In the process of standardizing the above three types of classes, we have a clue as to how visiting behavior integrates the whole community. It may be described briefly as follows: Status causes the lower class (C) to respond to the middle class (B), which in turn responds to the upper class (A). Visiting behavior is thus seen as a dynamic social psychological process that impels the families of lower status to associate themselves with higher-status families in what amounts to a "stair-step" hierarchy.

CLEAVAGES IN A RELATIVELY HOMOGENEOUS GROUP OF RURAL YOUTH

AN EXPERIMENT IN THE USE OF SOCIOMETRY IN ATTAINING AND MEASURING INTEGRATION

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The subtleties of inter-personal group relations remain a puzzling problem to administrators, personnel directors, and group workers of all varieties. It is well known that half a dozen men picked at random will not, in all probability, interact harmoniously, whether it be in the factory, in a play group, or on the street corner. Although some excellent work has been done on related problems,¹ the basis of many cleavages remains an untouched field of research.

The present study attempts to treat some of the cleavages found in a relatively homogeneous group of farm youth in a camp situation. In the summer of 1946, the Junior Farm Bureau in Michigan² organized a series of three training camps for boys and girls. The broad objectives of these camps were to bring together a number of farm youth for a week of leadership training and recreation. Although the Junior Farm Bureau delegates were relatively homogeneous with respect to age and occupational interests, it was felt that something further might be done to guarantee harmonious work-group relations.

¹See the following studies by Charles F. Loomis: "Ethnic Cleavages in the Southwest as Reflected in Two High Schools," *SOCIOMETRY*, Vol. 6, No. 1, February 1943; "Informal Groupings in a Spanish-American Village," *SOCIOMETRY*, Vol. 4, No. 1, February 1941; "Demonstration in Rural Sociology and Anthropology," Vol. 6, No. 1, Winter 1947; and "Political and Occupational Cleavages in a Hanoverian Village, Germany," *SOCIOMETRY*, Vol. 9, No. 4, November 1946.

²The Junior Farm Bureau was organized in Michigan in 1935. Its objectives are the following: (1) To provide a sphere of activity by which and through which rural young people might come to a consciousness of their right to exercise responsibility in the program-planning and policy-making bodies for agriculture; (2) To provide, through the initiative of the young people themselves, a local organization whereby rural young people may enjoy the pleasures and benefits of associationship in its many phases; (3) To provide rural young people with an organization through which they may examine and train their own leadership for the present functioning of their Junior Farm Bureau activity, as well as for future adult responsibility in economic agricultural organizations; and (4) To create an organized force whereby rural young people may plan and direct the course of their own educational development.

The Sample.—Data were secured from a total of 189 Junior Farm Bureau participants in three separate camps during the summer of 1946. Of this number 102 were boys and 83 were girls. The name and size of each of the camps is indicated in Table I.

TABLE I
LOCATION AND NUMBER OF PARTICIPANTS IN THE JUNIOR FARM BUREAU CAMPS,
CLASSIFIED BY SEX

Name and Location of Camp	Number	
	Boys	Girls
Clear Lake, Barry County	26	32
Torch Lake, Antrim County	33	30
Waldenwoods, Livingston County	43	21
Total	102	83

As already indicated, this group is relatively homogeneous with respect to occupational interests and age. Normally, the age of Junior Farm Bureau members ranges from 18 to 28, but during the war period somewhat younger youth became members. By virtue of the nature and function of the organization, all participants in the camps were more or less closely associated with agriculture. All the camp participants came from the Lower Peninsula. Those attending the Clear Lake camp came primarily from southern Michigan, chiefly from the four southernmost tiers of counties. A total of 19 different counties was represented, however. While only 13 different counties were represented at the Torch Lake camp, southern and northern Michigan were represented. The Waldenwoods camp had the widest regional representation with 31 counties sending delegates.

Purpose.—The specific objectives of the pages to follow are two-fold: (1) It is our purpose to indicate a simple method of determining harmonious work-groups as well as the group-selected leader through sociometric techniques; and (2) we wish to indicate the nature of and change in group cleavages in the camp situation. Specifically, the extent of cleavages according to sex, age, and area of origin in the state will be examined. Furthermore, the extent of change in cleavages at the end of one week's association will also be treated.

Procedure.—Shortly following the arrival of the camp participants, they were requested to fill out a general data sheet which included such control information as name, address, age, sex, marital status, hobbies, and vocational plans. On this same questionnaire, each junior farm bureau member was asked to list the five persons (in order of preference) with

whom they would most enjoy working during the camp session.³ Again at the end of each of the three camps, the participants were asked to list those with whom they would most like to work if the same group were to repeat the camp six months in the future. These two sets of data provide the basis for group delineation, an analysis of cleavages present, and changes during the course of one week's association.

Delineation of Work Groups and Leaders.—Since the smallest of the camps had a fairly large membership (58 persons), it was desirable to have a number of small, more manipulable work-groups. Through the sociometric techniques mentioned, work-groups were formed according to the choices made of each other so that congeniality was maximized. Figure 1 shows the sociometric work-chart used in establishing the work groups in the Waldenwoods camp. Note that certain individuals receive a large number of choices, and therefore may tentatively be regarded as leaders. One may also observe the "clustering" of individuals who have mutually selected one another. On this basis, the Junior Farm Bureau tribes or cliques, based upon congeniality, were formed.

Cleavages According to Sex.—Since these camps represent one of the few attempts to handle mixed groups of youth in this age range, the extent to which youth tend to select members of the same sex is of considerable interest. Furthermore, the element of change loomed as an interesting part of the investigation. First choices only were used in testing the hypothesis that an unduly large proportion of the choices would be made between members of the same sex. The data sheets provide information from which it may be determined how many boys choose another boy, how many choose a girl, how many girls choose another girl, and how many choose a boy. If the boys, for example, choose a disproportionately small number of girls, this would indicate cleavage. The number and direction of the choices, the expected number of choices, and the chi-square tests of significance are summarized in Table II. See also Figure 2.

At the beginning of each of the three camps, there is a strong tendency for boys to select boys and for girls to select girls. For the total of the three camps, out of 102 boys, 74 chose another boy and only 28 chose a girl.

³The precise statement of the request is as follows: "What five persons would you most enjoy working and playing with during this camp session? Please refer to the directory for the numbers of the individuals of your choices and place the number instead of names in order of preference." A similar technique was used by Loomis in setting up county agent work groups, *op. cit.*, "Demonstration in Rural Sociology and Anthropology—A Case Report," p. 11.

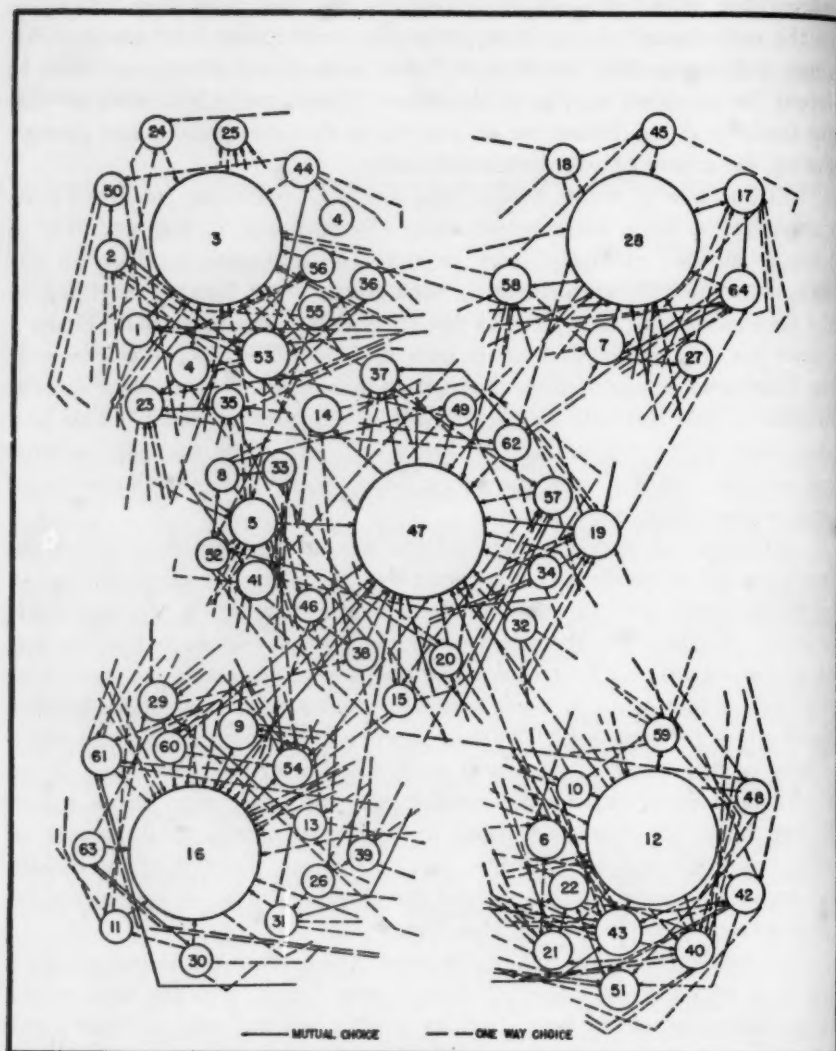


FIGURE 1

Sociometric work chart used in establishing work groups in the Waldenwoods Junior Farm Bureau Camp. Notice that Numbers 3, 28, 47, 16, and 12, received a very large share of the choices. By virtue of this fact, they were considered clique, or work group leaders. It will be noted that in each of the five groups, the majority of the youth are tied closely together with a minimum number of choices outside the group.

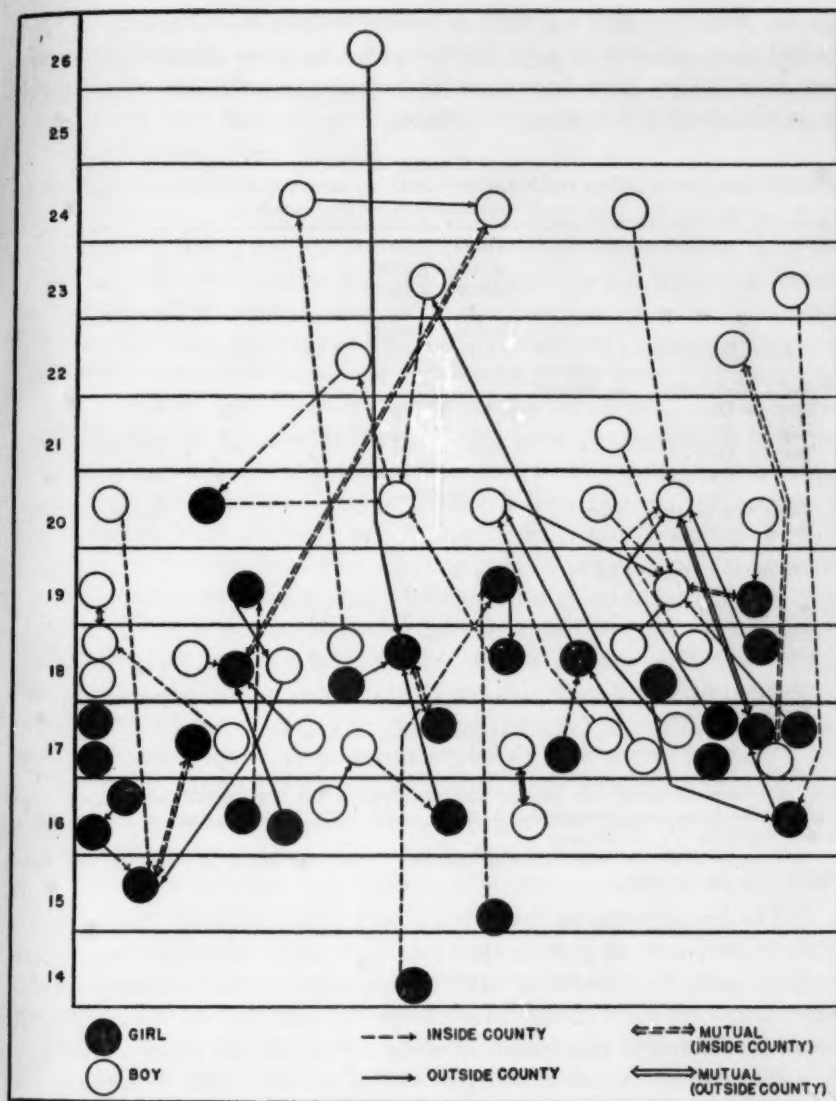


FIGURE 2

Sociometric chart showing the work group selections on the basis of sex, age, mutuality, and residence of Junior Farm Bureau participants on entering Torch Lake Camp. It will be noted that there are very few choices between the youngest and the oldest age groups. However, the middle groups, those aged 18 to 21, show the greatest amount of in-group selectivity. This Camp exhibited age-group cleavages which were somewhat different from the other camps. Notice the small number of "outside" county choices.

If the boys had directed their selections without a sex selectivity, they would have selected 56 boys and 46 girls. In terms of probability, such variations might have been expected to have occurred less than once in every hundred, if left merely to chance.

TABLE II
COMPUTATIONS OF CHI-SQUARE MEASURES OF CLEAVAGES ACCORDING TO SEX, AS REPORTED
BY JUNIOR FARM BUREAU YOUTH

Direction of Choice	Observed Number of Choices (f)	Expected Number of Choices (f')	$f-f'$	$(f-f')^2$	$\frac{(f-f')^2}{f'}$	P**
<i>Total Three Camps: Beginning*</i>						
Boy to Boy	74	56	18	324	5.79	
Boy to Girl	28	46	-18	324	7.04	
Girl to Girl	60	37	23	529	14.30	
Girl to Boy	23	46	-23	529	11.50	
Total Chi Squares: Boys					12.83	.01
Total Chi Squares: Girls					25.80	.01
<i>Total Three Camps: End</i>						
Boy to Boy	70	57	13	169	2.96	
Boy to Girl	31	44	-13	169	3.84	
Girl to Girl	31	35	-4	16	.46	
Girl to Boy	48	44	4	16	.36	
Total Chi Squares: Boys					6.80	.01
Total Chi Squares: Girls					.82	.50

*"Beginning" refers to the choices made upon arrival at the camps; "End" refers to those choices made after a period of one week. In view of the small numbers, it did not seem advisable to include the chi-squares for the individual camps. These chi-squares have been computed, however, and with minor variations correspond to those reported for all camps.

**P is used as the symbol for probability. The probability is less than the figure entered in the column.

The choices made by the girls are even more significant. Out of the 83 girls in the camp, 60 gave as their first work-group choice another girl and only 23 gave the name of a boy. In proportion to their representation in the camps, the girls should have chosen 37 girls and 46 boys. As indicated by the test of significance, a chi-square of this magnitude would occur less than once in every hundred, if left to chance. Thus it appears that the cleavage between boys and girls at the beginning of the camps was significant.

The choices made by the same boys and girls at the end of the camp indicate a great amount of change. While the boys still tended to select other boys and girls tended to select other girls, the tendency was less

strong. The girls shifted their choices to boys much more than the reverse. At the end of the camping periods, of the 79 girls,⁴ 31 selected girls and 48 selected boys. In proportion to their representations, 35 girls and 44 boys should have been selected. Note the reduced chi-square values at the end of the period. See Table II.

The cultural compulsions, placed unequally upon males and females in our society, is vividly discernible in the rejections of members of the opposite sex. The youth in these camps were not openly willing to choose a work partner without the prerequisite of introduction and other societal stipulations. This tendency proved quite strong on arrival at the camps. In relations with the opposite sex, society places more stringent demands upon the females. It should not be surprising, therefore, that there were 50 percent fewer girls selecting boys than expected on the basis of numbers in the camps. In the case of boys selecting girls, the percentage of choices is 39 percent below expectation. The change in choices after a week's association is interesting. The girls selected boys in excess of expectation by 9 percent while the boys were failing to select girls in accordance with expectation. In fact, boys were selecting girls 30 percent under expectation.

Cleavages According to Age.—Although this group of farm bureau members is relatively homogeneous in age, we know that the 'teen-agers are culturally apart from the older youth. Despite a range of little more than ten years in the ages of our groups, it was felt worthwhile to make a separation on the basis of age. The following three age groups were arbitrarily decided upon: (1) Youth under 18; (2) youth 18 to 21; and (3) youth 21 and over. Again, the number of choices made within and between these age groups were tabulated, the expected frequencies computed, and the tests of significance determined. The results are shown in Table III.

Table III indicates that there is a strong tendency at the beginning of the camp week to choose within the three age groups. Refer also to Figure 2. Of the 34 youth under 18 years of age, 12 chose others in the same age group when only 9 choices were expected; of 49 youth from 18 to 21, 24 choices were made of others in this age group when only 19 were expected; and in the group of 44 youth 21 years old and over, 28 choices were made of others in this age group when only 15 were expected. In the case of the older youth, the chi-square value is highly significant. It will be noted that the group under 18 strongly rejected the oldest group, while the oldest group (those 21 and over) strongly rejected both the younger age groups. The middle group (those between the ages of 18

⁴Some members, both boys and girls, did not stay throughout the period.

TABLE III
COMPUTATIONS OF CHI-SQUARE MEASURES OF CLEAVAGE ACCORDING TO AGE, AS REPORTED
BY JUNIOR FARM BUREAU YOUTH

Direction of Choice	Observed Number of Choices (f)	Expected Number of Choices (f')	$f-f'$	$(f-f')^2$	$\frac{(f-f')^2}{f'}$	P**
<i>Total Two Camps: Beginning*</i>						
Under 18 to Under 18	12	9	3	9	1.00	
Under 18 to 18 to 21	18	13	5	25	1.92	
Under 18 to 21 and Over	4	12	-8	64	5.33	
18 to 21 to Under 18	7	13	-5	25	1.92	
18 to 21 to 18 to 21	24	19	5	25	1.32	
18 to 21 to 21 and Over	18	17	1	1	.06	
21 and Over to Under 18	4	12	-8	64	5.33	
21 and Over to 18 to 21	12	17	-5	25	1.47	
21 and Over to 21 and Over	28	15	13	169	11.27	
Total Chi Squares: Under 18					8.25	.02
Total Chi Squares: 18-21					3.30	.20
Total Chi Squares: 21 and Over					18.07	.01
<i>Total Two Camps: End</i>						
Under 18 to Under 18	10	8	2	4	2.00	
Under 18 to 18 to 21	16	11	5	25	2.27	
Under 18 to 21 and Over	4	11	-7	49	4.45	
18 to 21 to Under 18	7	11	-4	16	1.45	
18 to 21 to 18 to 21	16	16	0	0	—	
18 to 21 to 21 and Over	20	16	4	16	1.00	
21 and Over to Under 18	3	11	-8	64	5.82	
21 and Over to 18 to 21	9	15	-6	36	2.40	
21 and Over to 21 and Over	29	15	14	196	13.07	
Total Chi Squares: Under 18					8.72	.02
Total Chi Squares: 18-21					2.45	.30
Total Chi Squares: 21 and Over					21.29	.01

*"Beginning" refers to the choices made upon arrival at the camps; "End" refers to those choices made after a period of one week. Data are unavailable for the Clear Lake camp. In view of the small numbers, it did not seem advisable to include the chi-squares for the individual camps. These chi-squares have been computed, however, and with minor variations correspond to those reported for all camps.

**P is used as the symbol for probability. The probability is less than the figure entered in the column.

and 21) tended to reject the younger group but selected members of the older group according to expectations.

At the end of the camp periods, the same general cleavages remained. The oldest youth remained the most exclusive and strongly rejected the younger age groups, especially those under 18 years of age. The youngest age group continued to select those in the same age group and rejected the oldest youth.

By far the greatest exclusiveness is exhibited by the oldest group. Both at the beginning and end of the camp periods, youth 21 and older selected others within this age group more than 85 percent over expectation. This group rejected both of the younger groups and particularly the youngest group. The youngest group made its choices very largely within its own group and rejected the oldest group. The middle age group was least exclusive.

Area of Origin in the State.—It was felt that the area or county of origin in the state might be another factor upon which cleavage might be based. Consequently, an analysis was made as to whether the youth tended to select persons within the county both at the beginning and end of the camping periods.

Table IV shows the number of choices from within and outside of the county of origin for each of the camps both at the beginning and end

TABLE IV
NUMBER AND PERCENTAGE OF CHOICES MADE OF PERSONS LIVING WITHIN AND OUTSIDE
THE COUNTY AT BEGINNING AND END OF CAMPING PERIODS

Name of Camp and Time	Choices Within County		Choices Outside County	
	Number	Percent	Number	Percent
Clear Lake: Beginning of Week	24	41.4	34	58.6
Clear Lake: End of Week	10	15.9	53	84.1
Torch Lake: Beginning of Week	33	52.4	30	47.6
Torch Lake: End of Week	17	29.8	40	70.2
Waldenwoods: Beginning of Week	24	37.5	40	62.5
Waldenwoods: End of Week	9	13.8	56	86.2
Total: Beginning of Week	81	43.8	104	56.2
Total: End of Week	36	19.5	149	80.5

of the camp weeks. Table IV shows clearly a strong inclination at the beginning of the camp weeks for the youth to select persons from within the county. In the case of the Torch Lake camp, more than half of the choices were of persons who lived in the same county as the chooser.

Figure 2, which shows the choices made at the beginning of the Torch Lake camp, emphasizes this fact. Other cleavages are relatively insignificant in this particular camp. There is, however, some tendency for the two sexes to select members of the same sex.

At the end of the week, however, the number of choices made outside the county increased greatly. In the case of the Waldenwoods camp, 86 percent of all choices were made of persons in outside counties.

Conclusion.—On the basis of the Junior Farm Bureau camp experience, the method of delineating groups proves highly successful. Observers reported a superior solidarity over former camps as reflected in such indices as greater participation in discussions, larger degree of group identification, and more work accomplished. It would appear, therefore, that this technique of selecting groups is valuable in guaranteeing some degree of congeniality.

While the sex cleavage particularly would seem to be the result of cultural compulsions, it should be recognized by group workers of all varieties. Although the youth groups were homogeneous in all other respects, the factor of age appears to be crucial to the success of work groups. The strong rejection of each other on the part of youth under 18 and those over 21, points to the significance of age in group work. The tendency on the part of youth to select persons within their own counties is not surprising. The willingness to choose newly-made acquaintances in such large proportions at the end of the week, however, is notable.

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GOALS OF LIFE OF RURAL MINISTERS

JOHN B. HOLLAND AND CHARLES P. LOOMIS

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The relationship of group sentiments and beliefs to other social phenomena is one of the important, difficult, but perennially intriguing problems of social science. The following report is based upon research in this field with respect to one occupational group. It was the intention of this research to see if there was a clearly defined pattern of sentiments with respect to stated "goals of life" for a group of rural ministers; and, further, to see if such a pattern was similar or different from that of a contrasting group of college students.

The sample consisted of twenty-nine ministers attending the 1946 summer session at the Garrett Bible Institute, Northwestern University. These ministers were from all parts of the United States. For the most part they served rural churches or otherwise worked in rural areas. They were all Protestants, but from several different denominations, most of which might be characterized as "conservative." The mean age of the group was 36.4 years. An intensive analysis of the cultural background of the participants was not made, but it would appear to be in many ways diverse for the several members in the study. The sample was selective in that it consisted of ministers interested in further study and advancement as shown by their attendance at this summer session. The principal factor of homogeneity, however, would appear to be the common rural ministerial occupations of the participants.

The instrument used in this study was the *Goals of Life Inventory*, developed as a project of the Cooperative Study in General Education.¹ This inventory consists of twenty goals, each of which is paired with the other nineteen goals. This technique of "paired comparisons" forces the person taking the inventory to appraise each of the goals against all of the

¹Ralph W. Ogan in "The Cooperative Study in General Education," *The Educational Record*, 23:692-703, 1942, outlines some of the work done by this group. A more complete report of this particular project is contained in the Staff News Letter (The Cooperative Study in General Education, 5835 Kimbark Ave., Chicago, Illinois) Vol. 2, No. 6 and Vol. 3, No. 6, April 1941 and May 1942, respectively. Further specific information as to the details of test construction and the validity of the instrument are to be found in "An Inventory of Students' General Goals in Life," by Harold E. Dunkel, *Educational and Psychological Measurement*, 4:87-95, 1944, and in Chapter II of a book now in process of publication by Professor Dunkel.

other goals, and to express each time his preference. The maximum score for any one goal is 19; the minimum is zero. If choices were made with perfect consistency, the goals would be ranked from 19 to zero. Fairly low "top" scores and high "bottom" scores, together with a number of ties, indicates that the person taking the inventory has neither strong preferences nor aversions. Conversely, high "top" scores and low "bottom" scores indicates positive acceptance or rejection of the sentiments selected. There is no total score for performance on the inventory. The final result is a series of twenty separate scores for each person taking the inventory. The twenty goals on this inventory are as follows:

Goal No.	Name ²
1	Self-development—becoming a real, genuine person.
2	Finding my place in life and accepting it.
3	Serving God, doing God's will.
4	Achieving personal immortality in heaven.
5	Self-discipline—overcoming my irrational emotions and sensuous desires.
6	Self-sacrifice for the sake of a better world.
7	Doing my duty.
8	Peace of mind, contentment, stillness of spirit.
9	Serving the community of which I am a part.
10	Fine relations with other persons.
11	Living for the pleasure of the moment.
12	Getting as many deep and lasting pleasures out of life as I can.
13	Promoting the most deep and lasting pleasures for the greatest number of people.
14	Making a place for myself in the world; getting ahead.
15	Power—control over people and things.
16	Security—protecting my way of life against adverse changes.
17	Being able to "take it"; brave and uncomplaining acceptance of what circumstances bring.
18	Realizing that I cannot change the bad features of the world, and doing the best I can for myself and those dear to me.
19	Survival, continued existence.
20	Handling the specific problems of life as they arise.

These goals are described by the authors of the inventory as general goals of life. They were empirically selected and are representative of both the main stream of Western philosophy and religion, and of more familiar but less formal goals which are part of common or "folk" philosophy. These general goals do not appear, therefore, to be specifics in daily living. However, they may be interpreted as manifestations of sentiments toward which

²In the future discussion and in the tables the names of these goals will be given in abbreviated form.

daily living is oriented. The problem of this research, however, was not that of relating such manifestations of sentiments to other behavior. Rather it was to see if there was a pattern of sentiments common to this sample of rural ministers which, at the same time, differed in any significant way from the pattern of sentiments common to a selected sample of college students.

The mean performance of the sample of rural ministers on the *Goals of Life Inventory*, together with standard deviation, standard errors, and rank order for each goal is shown in Table 1.

TABLE I
PERFORMANCE OF RURAL MINISTERS ON GOALS OF LIFE INVENTORY

Goal No.	Name	Rank Order	N = 29		
			Mean	S.E.	S.D.
3	Serving God	1	16.59	.64	3.38
9	Serving the community	2	15.31	.41	2.21
13	Promoting pleasure for others	3	14.66	.51	2.68
6	Self-sacrifice	4	13.90	.57	2.99
7	Doing my duty	5	13.41	.58	3.09
1	Self-development	6	13.10	.53	2.86
20	Handling specific problems as they arise	7	12.66	.61	3.21
10	Fine relations with others	8	11.24	.57	3.04
2	Finding place in life	9	9.97	.82	4.35
5	Self-discipline	10	9.86	.57	3.05
8	Peace of mind	11	9.14	.75	3.95
17	Ability to "take it"	12	9.00	.63	3.33
4	Achieving personal immortality	13	8.41	.86	4.57
18	Acceptance of the world as it is	14	7.45	.56	2.97
12	Getting deep and lasting pleasure	15	6.93	.58	3.10
16	Security	16	6.31	.57	3.02
14	Getting ahead	17	5.14	.56	2.99
19	Survival	18	4.00	.55	2.90
15	Power	19	3.38	.33	1.73
11	Living for pleasure of the moment	20	0.72	.17	0.91

Equivalent information for a selected sample of college students is shown in Table II. This sample of college students was previously subjected to an intensive analysis with respect to the influence of various factors on verbalized "goals of life." Table II shows the performance of the sample as a whole, but such factors as sex, war experience, rural-urban backgrounds, religious differences, and scholastic ability were analyzed separately to see if there were significant differences which might be attributed to such variables. In general, while there were some differences, the sub-samples behaved somewhat like random samples chosen from a total population.³ Thus Table

³The analysis referred to is undertaken in an unpublished M.A. thesis, John B. Holland, *The Relationship Between Students' Verbalized Goals of Life and Certain Selected Background and Experiential Factors*, Michigan State College, 1946.

II represents, in general, a fairly homogeneous sample of freshman-sophomore college students, mean age 20.9, taking general education courses at Michigan State College.

A comparison of Tables I and II shows by inspection that there is considerable difference in the patterns of sentiments expressed by the rural ministers and the college students. Since the *Goals of Life Inventory* requires that a choice be made on each goal, the most important goals for consideration are the upper and lower five. Other goals are pushed toward the center, either because they are less desirable or less undesirable.

As might be expected, for the sample of rural ministers, the most important goal is that of serving God. However, in addition other highly chosen sentiments include "serving the community," "promoting pleasure for others," "self-sacrifice," and "duty," all of which in operation together form a "service to others" motif quite consistent with the sentiments commonly attributed to the profession examined.

Both rural ministers and college students reject verbally the sentiments of mere "survival," "power," and "living for the pleasure of the moment." It is interesting, however, to note that "security" and "getting ahead," both sentiments which rate fairly high for college students, are included by rural ministers among their lowest five goals. This, too, would seem to be consistent with expectation, since, in our society, neither security nor advancement

TABLE II
PERFORMANCE OF COLLEGE STUDENTS ON GOALS OF LIFE INVENTORY

Goal No.	Name	Rank Order	N = 403		
			Mean	S.E.	S.D.
1	Self-development	1	14.97	.14	2.74
20	Handling specific problems as they arise	2	12.77	.16	3.28
10	Fine relations with others	3	12.35	.18	3.54
8	Peace of mind	4	11.78	.22	4.32
13	Promoting pleasure for others	5	11.52	.21	4.29
12	Getting deep and lasting pleasure	6	11.24	.21	4.17
14	Getting ahead	7	10.92	.22	4.48
5	Self-discipline	8	10.91	.18	3.70
16	Security	9	10.65	.21	4.24
18	Acceptance of the world as it is	10	10.20	.21	4.16
3	Serving God	11	10.16	.30	6.11
9	Serving the community	12	9.95	.21	4.12
17	Ability to "take it"	13	9.54	.20	4.07
7	Doing my duty	14	9.31	.20	3.98
2	Finding place in life	15	8.64	.21	4.25
6	Self-sacrifice	16	6.92	.22	4.46
4	Achieving personal immortality	17	6.39	.26	5.28
19	Survival	18	4.21	.18	3.59
15	Power	19	3.51	.19	3.81
11	Living for pleasure of the moment	20	3.28	.17	3.55

would seem to be rewards commonly attached to the rural ministry. Therefore, it would seem likely that those who choose such a profession must be willing to manifest, at least outwardly, sentiments which deemphasize the desirability of such goals.

It is interesting to note that achieving personal immortality is ranked among the last five goals by college students, and can achieve no better than a rank of thirteen for the sample of rural ministers. It would seem that college students reject the goal of personal immortality, and that such a goal is not of great importance to these rural ministers, either, although others are less desirable for them when a choice has to be made.

The sample of college students manifests much more self-centered sentiments than those of the ministers, but the pattern is not as clear nor as consistent. The goal of "self-development" ranks considerably above all other goals and would seem to be the key sentiment by means of which other high goals may be explained. In terms of self-development, in our society, "fine relations with others" is a stepping-stone toward success. "Handling specific problems as they arise" might be considered as an expression of opportunism or concern with immediate ends which lead to the general goals of self-development. "Peace of mind" might be construed as expressing some ambivalence toward the competitive struggle for self-advancement.

Such an interpretation need not be labored, however. The results may merely indicate that this sample of college students is neither clear nor consistent with respect to the verbal goals they are willing to choose. For example, "promoting pleasure for others," a utilitarian goal, would appear to indicate some concern for the welfare of other people. But serving the community is ranked rather low; and self-sacrifice, which is among the top five goals of the rural ministers is clearly rejected by the college students and ranks among their last five goals.

Another factor which seems to be of importance in the comparison of students and ministers is the strength of choice and the variability shown by the respective samples. The sample of ministers, being only twenty-nine, is, of course, greatly affected by any considerable deviation from the norm in single instances. The fact that the highly chosen and rejected goals are more clearly indicated in the small sample of ministers than in the large sample of students would seem to indicate both that the sample is reasonably homogeneous and that the ministers were more in agreement and positive in their choices. This is further confirmed by an examination of the comparative standard deviations on each goal. The sample of rural ministers

has a smaller standard deviation in most cases than does the sample of students. Since the standard deviation in a small sample is greatly affected by differences within the sample, such a finding would seem to indicate again that the sample of ministers is reasonably homogeneous, and more positive, as a group, in both the sentiments they accept and reject. It is possible, of course, that with this small sample such a finding is merely the result of sampling error.

One of the important findings with respect to the sample of college students⁴ was this apparently large variation within the sample. The variation was so noticeable, in fact, that there was some question as to whether the instrument was discriminatory or the sample representative. The comparison with rural ministers, however, would seem to indicate that the instrument does discriminate between groups. The sample of college students was adequate as to size and the analysis for internal consistency reasonably complete. Assuming the limitations of both sample and instrument, however, the behavior of these students with respect to sentiments they were willing to express would still seem to confirm the foregoing statement that these students were neither consistent nor clear on "goals of life" with the exception of the goal of self-development.

Although differences between the samples of ministers and students have been pointed out by inspection, it remains to be seen if such differences are due to chance factors or are significant. Table III presents the results of *t* tests made to obtain a more adequate comparison. Small sampling techniques were used in obtaining these tests.

From Table III it would appear that the apparent differences between the two samples is statistically significant. On twelve goals the *t* test indicates that the possibility of difference being due to chance is below the one per cent level. That is, a *t* value of 2.6 would indicate that such a difference between groups might occur once in a hundred times by chance. Since the *t* values for these twelve goals greatly exceeded 2.6, it would seem that such differences were significant. On one other goal the difference found would seem to indicate a tendency toward significance. The *t* value for the goal of "achieving personal immortality" is 2.24. This would be significant below the five per cent level where a *t* value of 2.0 indicates that such a difference could occur by chance only five times in a hundred chances.

Since these two samples differ significantly on a majority of the goals in the *Goals of Life Inventory* some attention should be paid to the problem of why such differences were found. It would be useful to refer to Tables

⁴John B. Holland, *ibid.*

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TABLE III
COMPARISON OF RESPONSES OF RURAL MINISTERS AND COLLEGE STUDENTS
ON GOALS OF LIFE INVENTORY

Goal No.	Name	t values Rural ministers compared with college students
1	Self-development	— 3.40*
2	Finding place in life	1.58
3	Serving God	9.06*
4	Achieving personal immortality	2.24**
5	Self-discipline	— 1.78
6	Self-sacrifice	11.44*
7	Doing my duty	6.61*
8	Peace of mind	— 3.38*
9	Serving the community	11.65*
10	Fine relations with others	— 1.88
11	Living for the pleasure of the moment	—10.67*
12	Getting deep and lasting pleasure	— 6.95*
13	Promoting pleasure for others	5.70*
14	Getting ahead	— 9.63*
15	Power	— 0.33
16	Security	— 7.23*
17	Ability to "take it"	— 0.82
18	Acceptance of the world as it is	— 4.66*
19	Survival	— 0.37
20	Handling specific problems as they arise	— 0.17

*t value is significant at the one per cent level, 2.6, indicating probability of significant difference between the groups compared. Minus sign indicates that the second named group has a higher mean.

**t value is significant at the five per cent level 2.0, indicating tendency toward significance between the groups compared. In this instance significance is almost at the two per cent level, indicating a strong tendency toward significant difference between the groups compared.

I and II in order to compare the rank order of the goals which were found to be significantly different for the two groups.

In terms of rank order four goals upon which the two groups differ significantly are ranked about the same. Thus, "promoting pleasure for others" is ranked third by ministers and fifth by college students. The ministers, however, on the average, mark this goal higher. The goal of "personal immortality" has already been discussed. It is a goal which is rejected by students, but it is not highly placed in the hierarchy of goals chosen by ministers. Such goals as "ability to take it" and "living for pleasure" rank about the same for both groups.

It might be suggested that some of the differences which are statistically significant are partially due to the fact that, on the whole, the rural ministers were more definite in their choices than were the college students. That is, the ministers tended to average both higher scores on the goals they accepted and lower scores on the goals they rejected. One example is the goal of "living for the pleasure of the moment" which ranks last for both groups.

The mean of the sample of college students, however, was 3.28; for ministers it was 0.72. This would indicate that, for the groups as a whole, the ministers reject this goal in much more definite fashion than the students.

Further pursuing this reasoning, it would seem that the ministers agree more on the sentiments they are willing to accept and reject. The students would appear to be much less homogeneous in making such choices. This may be due, partially, to the factor of age. The ministers were, as a group, fifteen years older than the students. It is possible that the students did not either individually or as a group make consistently definite choices because they were not yet able to make such choices. On the other hand, it might be argued, the ministers had reached an age where they had a reasonably clear pattern of sentiments which they were willing to recognize, either as desirable or undesirable for them.

But while the factor of age may account for some of the differences between these groups, and, perhaps, accounts for the variability in consistency and definiteness of choice, there are yet many other differences which require explanation. These differences would seem to be those which are related to the profession of rural ministry in comparison to a more general population. That is, these ministers show clearly a willingness to endorse goals which represent service to others. They are not, on the verbal level, concerned with such problems as security or getting ahead which are more significant to college students and perhaps to the more general population. The sentiments most frequently chosen would seem to meet the requirements of the ministerial profession. It is significant that, although the group is small, the pattern of sentiments is clear, consistent, and definite. Such goals as "self-development," "fine relations with others" and "handling specific problems as they arise," which are high for college students, were pushed below the hierarchy of the upper five goals of rural ministers. It might be suggested that such goals would be important to these ministers if they were not previously dedicated to the "service to others" motif; or, at least, felt it necessary to indicate such concern with community-centered goals.

As has been pointed out, the goals on the *Goals of Life Inventory* are very general statements. A further check on the consistency of the sentiments expressed by the sample of rural ministers was obtained by comparing three new goals with the original set of goals. These new goals, "developing professional competence," "having a happy well-adjusted family," and "having high status in my community and country," were subjectively determined by the authors as being more specific goals. They also would appear to present personal-centered goals in a more acceptable way than some of the

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personal-centered goals on the inventory, e.g., "power—control over people and things." The results are shown in Table IV.

A comparison of Table I and Table IV shows the effect of the introduction of the new goals. Since an increase in the number of goals affects the size of the mean, the two tables cannot be directly compared. However, a comparison of the rank order of goals shown in both tables is informative.

It can be seen that the rank order of the original goals was little affected by the introduction of the new goals except in the case of goals 11 and 5

TABLE IV
PERFORMANCE OF RURAL MINISTERS ON ALTERED GOALS OF LIFE INVENTORY

Goal No.	Name	Rank Order	Mean	S.E.	S.D.
3	Serving God	1	19.28	.72	3.79
9	Serving the community	2	17.31	.51	2.70
13	Promoting pleasure for others	3	16.90	.58	3.07
22	HAVING A HAPPY WELL-ADJUSTED FAMILY*				
6	Self-sacrifice	4	16.07	.69	3.66
7	Doing my duty	5	16.03	.63	3.36
1	Self-development	6	15.59	.74	3.89
20	Handling specific problems as they arise	7	15.03	.62	3.32
10	Fine relations with others	8	14.17	.69	3.67
21	DEVELOPING PROFESSIONAL COMPETENCE*	9	12.86	.63	3.35
2	Finding place in life	10	12.24	.66	3.50
5	Self-discipline	11(tie)	11.45	.96	5.07
8	Peace of mind	11(tie)	11.45	.62	3.29
17	Ability to "take it"	13	10.55	.91	4.83
4	Achieving personal immortality	14	9.97	.74	3.90
23	HAVING HIGH STATUS IN MY COMMUNITY*	15	9.24	1.00	5.32
18	Acceptance of the world as it is	16	8.34	.65	3.46
12	Getting deep and lasting pleasure	17	8.31	.68	3.58
16	Security	18	7.76	.72	3.80
14	Getting ahead	19	6.76	.61	3.21
19	Survival	20	4.97	.46	2.43
15	Power	21	4.52	.68	3.30
11	Living for the pleasure of the moment	22	3.45	.34	1.79
		23	0.76	.17	0.97

*New goals compared with original goals in *Goals of Life Inventory*.

which were tied in the new comparison. In the first comparison goal 11 ranked slightly above goal 5. This would seem to further verify the consistency of the original pattern of sentiments expressed by these rural ministers.

However, "having a happy well-adjusted family" would appear to be more important to this sample of ministers than the goals of "self-sacrifice" and "duty." It is not as important, however, as the primary goal of "serving God" nor the important community-centered goals of "serving the community" and "promoting pleasure for others."

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10	DEVELOPING PROFESSIONAL COMPETENCE*	9	12.86	.63	3.35
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2	Self-discipline	11(tie)	11.45	.96	5.07
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16	Getting ahead	19	6.76	.61	3.21
14	Survival	20	4.97	.46	2.43
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*New goals compared with original goals in *Goals of Life Inventory*.

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However, "having a happy well-adjusted family" would appear to be more important to this sample of ministers than the goals of "self-sacrifice" and "duty." It is not as important, however, as the primary goal of "serving God" nor the important community-centered goals of "serving the community" and "promoting pleasure for others."

The goal of "developing professional competence" is ranked nearly in the middle of the hierarchy and would not seem to be of great importance as a sentiment which these ministers were willing to accept. The most that can be said is that this goal is more desirable than some of the other goals, but less desirable than many others.

The goal of "having high status in my community," which would seem to be a specific, personal-centered goal, ranks quite low. It is not as undesirable to these ministers as a few other goals, but is definitely less desirable than most.

In general, from this new comparison, it might be concluded that these rural ministers were consistent in expressing community-centered goals. The fact that they chose the goal of having a happy family when given an opportunity, would not seem to be inconsistent with this pattern. Such a sentiment, while outwardly it is a personal-centered goal, is at the same time a cultural imperative generally required by the communities in which rural ministers live. That is, having the outward appearance, at least, of a happy family, would appear to be a prerequisite for ministers, particularly in rural areas. As such, it might be stated, that these ministers endorse this community sentiment.

A further question was asked: Is the choice of leaders in this group of rural ministers related to the pattern of sentiments expressed by these leaders? Accordingly, after the group had disbanded the individual members were forwarded by mail a simple *sociometric test*, requesting them to select five members from the group with whom they would like to work, if they were to attend a similar class the following year. They were requested to make their selections on the basis of whom they thought would be the most productive and congenial members of a small work group of five members "organized for discussion of class topics and cooperative research involving trips to rural areas and institutions."

On the basis of the replies a matrix configuration was constructed.⁵ From this matrix it was possible to determine both the most highly chosen individuals and the overall structure of the group. Analysis of the matrix showed that the group was not well-knit, nor were there any well-knit subgroups of any size. That is, there was little evidence of any extended con-

⁵For an explanation of the construction of a matrix from a sociometric test see Elaine Forsyth and Leo Katz, "A Matrix Approach to the Analysis of Sociometric Data; Preliminary Report," *SOCIOMETRY*, Vol. IX, November, 1946, pp. 340-347. The authors are indebted to Dr. Katz for criticisms and suggestions in the construction of the matrix used in this research.

geniality groupings. This might be expected since these ministers came from widely different areas, were of diverse backgrounds and experience, and were thrown together for only a short time in a formal classroom. The matrix analysis would seem to further support the statement that the sample was heterogeneous except with respect to the common rural ministerial occupation of the participants.

Three members of the group emerged as stars, and their individual answers to the "Goals of Life Inventory" were compared to see if they chose or rejected similar goals. The three stars agreed on only two of their five highest goals, although two of the three agreed on four of their five top goals. All three agreed on only one of their five lowest goals. Here again, however, two of the three agreed on four of their five lowest goals, but these were not the same two who agreed on four of their five highest goals.

In a similar fashion the rank order of goals chosen by the stars was compared with the rank order of goals chosen by the group as a whole. Two of the stars chose four of the five top goals selected by the total group; one chose three. Again two of the stars (but not the same two) agreed with the total group on four of the five lowest goals; one agreed with only two of these goals.

It did not appear from this analysis that all highly chosen individuals consistently selected or rejected the same goals when compared either with themselves or with the total group. As a further check three other individuals were selected at random and compared in the same way.

The random selection revealed greater agreement than the stars. These three individuals agreed on three of their five highest goals, two agreeing on four goals. They likewise agreed on three of their lowest goals, with the same two people agreeing on four of their lowest five goals.

When compared with the total group, two agreed on four of the five highest goals chosen by the group; one agreed on three. On the five lowest goals selected by the total group, one agreed with three, one with four, and one with all five goals.

On the simple basis of inspection, though not in terms of more refined statistical analysis, it would seem that the stars agreed among themselves and with the group to no greater extent, at least, than other individuals in the group. Nor would it seem with respect to the general life goals examined in this report that the preferences of the stars were of great importance in their selection as desirable work companions by the group. Since this small sample of rural ministers did seem to be fairly homogeneous with respect to their choices of life goals, this may merely mean that there were not enough

individual differences in sentiment patterns to affect choice of work companions.

Tentative conclusions from this research may be summarized briefly as follows:

(1) The pattern of sentiments expressed by the sample of rural ministers would seem to be relatively consistent, clear, and definite, both with respect to sentiments which were accepted and those which were rejected. That is, the most highly chosen and rejected goals present a pattern of sentiments which are consistent with each other. Moreover, the size of the means indicates agreement within the group as a whole expressed in a clear and definite manner.

(2) The relatively most highly chosen goals would seem to indicate willingness on the part of the sample of rural ministers to express sentiments which reflect a "service to others" motif. That is, their goals appear to be community-centered, at least on the verbal level.

(3) Some confirmation of conclusion (2) is found in the group of sentiments which were relatively frequently rejected, particularly, "security" and "getting ahead". These goals are incompatible with service goals and are so recognized by these ministers.

(4) The sample of rural ministers differed significantly from a sample of college students. This difference was most pronounced with respect to the goals which were accepted. It is possible that the instrument is not discriminatory for some of the goals and that this is shown best by the goals which were rejected by both groups. However, as an incidental product of this research it would seem that the instrument used has considerable discriminatory value. Caution is necessary, however, in drawing such a tentative conclusion because the size of the sample of rural ministers makes possible the fact that the differences might be due to sampling error.

(5) Keeping in mind the possibility of sampling error, a tentative conclusion might be drawn that the difference found between the two samples examined were due primarily to the factors of age and occupational differences. The factors of age and occupation may concomitantly account for some differences in size of mean, and standard deviations. The pattern of sentiments for both groups, however, is significantly different both with respect to size of mean and in terms of rank order. Rank order is particularly important, since the instrument used requires that all goals be compared with each other. Since the sentiments expressed by the sample of rural ministers is consistent with *a priori* expectation it would seem that such differences in sentiments is affected by the professional occupation of these

ministers in itself. Since the sample was small and in most respects heterogeneous except for the factor of occupation, the importance of profession, in this instance, would seem to be emphasized.

(6) Leadership, on the basis of choices expressed on a sociometric test, does not seem to be significantly related to choice of life-goals. This may be due to the fact that because of the apparent homogeneity of the sample, there are not sufficient individual differences of sentiments, at least those permitted expression on the instrument used, to affect choices of work companions.

This project, of course, has not been in any way definitive. It does, however, raise some provocative questions for further research. For example, what differences are there in the patterns of professional sentiments endorsed by urban ministers and rural ministers? Does the factor of occupation enter, in any significant way, into the pattern of sentiments which people in various occupations are willing to express? Or is the pattern of sentiments with respect to general "goals of life" much the same for large parts of the populations as a whole as it is for the sample of college students? And, of course, of primary importance, what is the relationship between the sentiments manifested at the verbal level to other observable behavior?

THE MOST FREQUENTLY CHOSEN SOCIOGRAM
OR
THE SEDUCTION OF RURAL SOCIOLOGISTS BY THE NEIGHBORHOOD THEORY

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I

If sociograms could talk we might use a sociometric test to determine which sociogram to date is the most popular. Figure 1 below would probably by all odds take first prize. It was first printed under the senior authorship of the present writer.¹ Its next appearance was in an agricultural experiment station bulletin written by Linden S. Dodson and Jane Woolley.² These authors refer to the original article. Actually Miss Woolley, under the direction of the author of this article, gathered the data and drew the chart when working on a project being carried on by Dodson and Ensminger. Since that time it has carried no reference to the original source or has been incorrectly cited when used.

The several rural sociologists who have used the sociogram have not gone back to the original for citation. J. H. Kolb and Edmund deS. Brunner,³ Carl Taylor,⁴ et al., and David Lindstrom⁵ in their texts refer to the experiment station publication when they use it. E. J. Niederfrank,⁶ who used it in an agricultural extension service circular also referred to the secondary source, the experiment station publication. Loomis and Ensminger⁷ used it in *Applied Anthropology* without reference. This socio-

¹See Charles P. Loomis, Douglas Ensminger, and Jane Woolley, "Neighborhoods and Communities in County Planning," *Rural Sociology*, Vol. VI, No. 4, December 1941, pp. 339-341.

²Linden S. Dodson and Jane Woolley, "Community Organization in Charles County, Maryland," University of Maryland Agricultural Experiment Station, Bulletin No. A21, College Park, Maryland, January 1943, pp. 310 and 311.

³*A Study of Rural Society*, New York: Houghton Mifflin Company, 1946, p. 317.

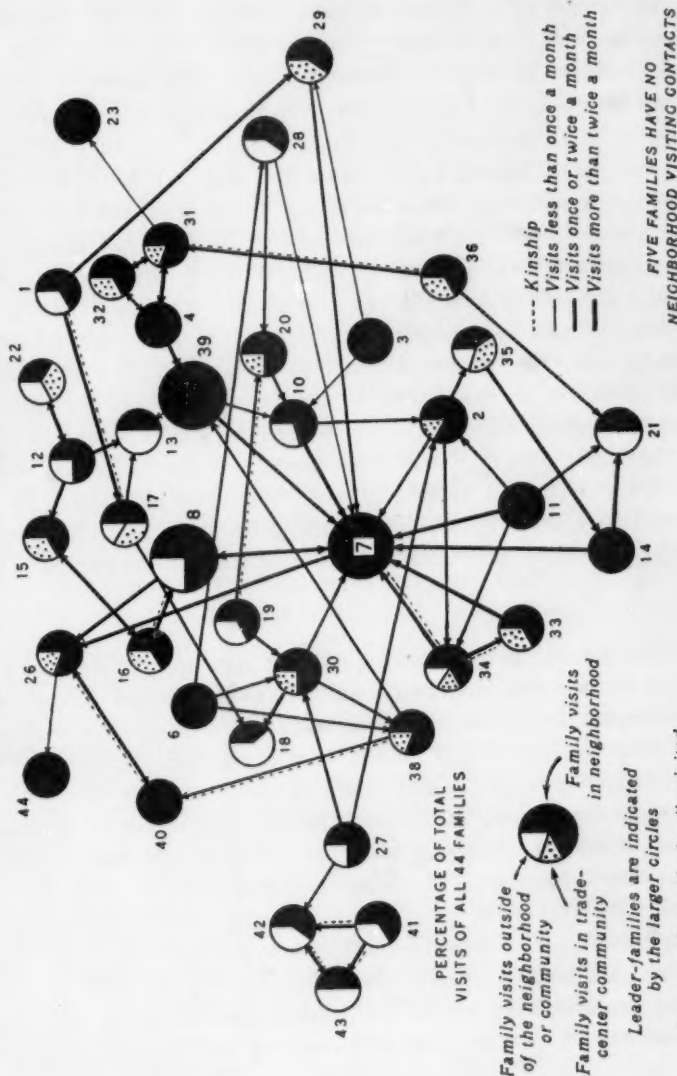
⁴*Rural Life in the United States*, New York: Alfred A. Knopf, 1948. Ch. 9.

⁵David Lindstrom, *American Rural Life*, New York: Ronald Press, 1948.

⁶"Main Types of County Extension Organization and Related Social Factors," Extension Service Circular 448, United States Department of Agriculture, March 1948, pp. 25 and 27.

⁷Charles P. Loomis and Douglas Ensminger, "Governmental Administration and Informal Groupings," *Applied Anthropology*, Vol. I, No. 2, Jan.-Mar. 1942. This is reprinted in C. P. Loomis, *Studies of Rural Social Organization*, State College Bookstore, E. Lansing, Michigan, 1945, Ch. 6.

VISITING AMONG FAMILIES OF WHITE PLAINS NEIGHBORHOOD CHARLES COUNTY, MARYLAND



gram was again utilized by Loomis in *Applied Anthropology*⁸ to describe how it was used in a demonstration before the Michigan county agricultural agents as an illustration of the contributions rural sociology can make to the extension service. Since that time several agents have requested similar sociograms for areas in their counties, and one may say that sociometry has become an agricultural extension tool in Michigan.

Since this sociogram, possibly more than any other single element, has served to bring sociometry into rural sociology and rural sociology extension work, it is interesting to follow its usage. When the sociogram was originally presented in *Rural Sociology* in line with the lead article in the present issue of SOCIOMETRY, we wrote, "It is in the neighborhood that the sympathetic familistic (*Gemeinschaft*) bonds offset selfish special interests and pressure groups that tend to dissolve the unity of the whole. In the trade center or so-called community, many neighborhoods, special interests, and other groups attempt to accomplish their objectives. These larger areas are in most parts of the country already secondary (*Gesellschaft*) non-familistic units. They bridge the gap between the 'grass roots' and the Great Society." After describing how the sociogram was drawn it was observed that "This map proved that the neighborhood, as previously delineated by several local people, was an area in which people lived intimately and where face-to-face (*Gemeinschaft*) ties prevailed."

II

Unfortunately, rural sociologists who were not familiar with Moreno's concept of the social atom or the cultural anthropologist's clique groups used the sociogram to "prove" that neighborhoods were groups. Schooled in the belief that the group next to the family was the neighborhood, they had a "blind spot" for real social atoms or cliques. They, therefore, misinterpreted our sociogram. This chart has the advantage of dramatizing the central position of family number seven, which has the most visiting contacts. It has the disadvantage of giving the impression on first inspection that the neighborhood group is a clique. Actually 59, or 32.4 percent, of the 182 relationships of 44 white families who said they lived in White Plains neighborhood visited outside the neighborhood. Twelve percent of the outside contacts were within the trade center in which the neighborhood fell, and twenty percent were with families in Baltimore, about forty miles

⁸"Demonstration in Rural Sociology and Anthropology—A Case Report," Vol. 6, No. 1, p. 19.

distant, or Washington, D. C., about 25 miles distant. There were five families living in the neighborhood who had no visiting contacts within the neighborhood. Of those who visited outside of the neighborhood, 75 percent visited relatives. When the extra-neighborhood relationships were included on the original chart this neighborhood certainly did not resemble a clique. Even as it is, close observation will reveal several cliques on Figure 1. With a matrix system of analysis, one could quickly isolate the cliques and congeniality groups among the families. If one is interested only in the neighborhood relationships, families 43, 42, and 41 form a triangle clique of families with kinship ties. Although family 7 is related directly or indirectly with all but seven interacting families in the neighborhood at least four sizeable cliques with their separate leaders can be discerned. For instance, family 39 stands in closer relation to the families 1, 4, 12, 13, 15, 17, 22, 23, 31, 32, and 36 than family 7 does. Any county agricultural extension agent would be interested in family number 39 because of the 11 families with whom it is in direct or fairly direct contact. Also, the fact that this family visits the family with the largest number of contacts in the neighborhood, number 7, and is visited by another potential leader, 38, would be of importance. On occasion he would be interested in the fact that two pairs of associating families in the clique led by family 39 are related by kinship bonds. Approximately nine percent of the relationships within the neighborhood were between families related by blood. The large circles on Figure 10 represent heads of families whom farmers in the neighborhood said should represent them in agricultural, marketing, and public affairs.

The reader will note that the spheres representing the various families carry different markings which represent the proportions of the visiting relations of the family which are within the neighborhood, the trade center and outside both. A person wishing to use the contacts of these people would be interested in these facts. Thus the most popular family in the neighborhood is not visited by outsiders nor does he visit outside the neighborhood. The chances of his being on intimate terms with officials in the trade center are slight. The head of family number 7 and family number 39 are known to be what during the county land use planning period was called "grass roots leaders". Other leaders such as number 8 have wider outside contacts.

Heads of families numbered 11, 39, and 7, who were designated by the largest number of farmers in the neighborhood as those farmers whom they would like to have represent them on matters pertaining to agricul-

tural production, marketing, public policy and the like, are, as can be easily seen from the sociogram, Figure 1, in key positions in the network of visiting relations of the neighborhood. In the neighborhoods in the United States, Germany and Peru studied, the relationship between leadership and visiting patterns the leaders were always found to be at focal points in the various networks. Those who want to influence people through their leaders must know the basis of their leadership, which will be rooted in the interaction pattern of the social systems in which the leaders operate. To know the boundaries of neighborhoods and trade centers is not enough.

SOCIAL STRATIFICATION IN SUBURBAN COMMUNITIES*

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Suburban living is assuming an ever increasing degree of importance in most manufacturing areas of America. For instance, in 1940, 12 per cent of the population of Michigan lived in rural non-farm, non-village residences, 6 per cent lived in rural non-farm villages, and 16 per cent were rural farm.¹ Observation in the fringe areas indicates continued rapid development of suburbs since the census of 1940. Within the relatively near future, States like Michigan can anticipate that more of their population will be living in fringe areas than on farms. The tendency for city populations either to remain stationary or to increase only slightly, indicates development of fringe areas. It is of special interest to future suburban development that 94 per cent of the 1026 suburban school age young people included in this study indicate a desire to continue living outside of cities when they establish their own homes.

Casual observation indicates that individuals living in suburbs seem to associate across more occupational lines than people do either in cities or in rural areas. The hypothesis of this article is that fathers' occupations have little influence in structuring school cliques in the suburban communities of Flint, Michigan, the area of the study. If this is true, it has many implications to the possible adult stratification of the communities, because probably school cliques will not deviate too far from the same general pattern which exists among their parents. Many studies have indicated the importance of occupation in the American stratification pattern.² Probably occupation is the one single most important factor in the social class structure. Income and others are important, but if one item had to be ranked as the most significant it would be occupation. Hence, if suburban living

*This is a portion of a monograph being prepared for publication in a bulletin by Michigan State College, Agricultural Experiment Station.

¹Beegle, J. Allen, *Michigan Population: Composition and Change*. Michigan State College, Agricultural Experiment Station, November 1947, p. 13.

²North, Cecil C., *Social Differentiation*. The University of North Carolina Press, 1926, p. 30.

Also: Hollingshead, August B., "Selected Characteristics of Classes in a Middle Western Community." *The American Sociological Review*, 12:385-395.

Also: Warner, W. Lloyd and Lunt, Paul S., *The Social Life of a Modern Community*. Yale University Press, 1941, Chapters 20-21.

does induce more association across occupation lines than do other areas, it is of considerable importance to theories of stratification and democracy, as well as to community organization.

That suburban living is here to stay and, with the automobile, probably will continue to increase is one of the facts of American community life. The immediate problem is to learn more about the characteristics of this new way of living, and to assist in finding solutions to the many kinds of educational, zoning, planning, religious, community organization, and other problems which develop in such communities.

The data presented here represent a small portion of the findings of a study of the interests, aspirations, cleavages, and problems of the 7th and 11th grade students attending the suburban schools immediately surrounding the city limits of Flint, Michigan, in April 1947. The study was conducted in conjunction with the Agricultural Extension Service, and was directed toward the finding of significant facts which could be of assistance in the development of programs attempting to assist in meeting the needs of the area.

Two excellent studies have been made on the Flint, Michigan, suburb.³ Firey describes the area quite effectively in stating:

"The fringe area is a problem area for many reasons:

- (a) It removes land from agricultural productivity.
- (b) Plotting becomes unguided, uncoordinated, and generally in excess of effective demand, thus creating vast tracts of idle land, irregular settlement patterns, and tax delinquent holding.
- (c) Taxes must increase in order to maintain the services necessary in such densely populated settlements, but such taxes commonly exceed the tax paying capacity of both farmers and shop workers.
- (d) Unregulated plotting frequently permits tracts to be subdivided with no deed restrictions, thereby ruining adjacent subdivisions that may have been started with high deed restrictions.
- (e) Fringe dwellers are frequently ill prepared and ill informed about buying land, getting implements, and cultivating gardens.

"The area surrounding Flint is a typical country-city fringe. It is characterized by small part-time acreages, plotted suburbs, blighted 'shack towns', gracious country estates, trailer camps, and other typical fringe manifestations.

³Firey, Walter, *Social Aspects to Land Use Planning in the Country-City Fringe: The Case of Flint, Michigan*. Michigan State College, Agricultural Experiment Station, East Lansing, 1946.

Also: Hughes, I. Harding, *Local Government in the Fringe Area of Flint, Michigan*. Institute for Human Adjustment, Horace H. Rackham School for Graduate Studies, University of Michigan, Ann Arbor, 1947.

"Despite the variation in social characteristics which one finds from neighborhood to neighborhood, there are several features which seem to characterize the fringe as a whole:

- (a) A high rate of population turnover;
- (b) A high rate of home ownership;
- (c) A high proportion of young adults having many children;
- (d) A heavy dependence upon industrial shop work in the city;
- (e) Inadequate social life and organizational facilities for the people;
- (f) Part time farming or gardening on the part of most families."

It is difficult to comprehend the serious situation which exists in such areas. However, the plight can probably be summarized best with the statement that in suburbs, the needs of essentially urban populations must be met with the governmental structures and community facilities planned for the needs of rural townships fifty years ago. For instance, the providing of such facilities as schools, fire protection, waste disposal, and water supplies is complicated by the fact that there are many levels of government all attempting to do something, but none with the authority or resources to meet the needs adequately.

The high school appears to be the central factor of community organization in many suburban areas. It is the one point around which many of the community activities can center. Also most of the youth population have been identified with the high school, and continue to think of it as the center of the community. Yet as important as the school is to the community, the critical needs of education including buildings and programs are made even more difficult by such factors as the continued existence of small school districts, rapidly increasing school populations, and inadequate taxing bases for education. Often important tax paying organizations, such as manufacturing establishments attract large new populations into an area, but avoid any responsibility for providing schools and other facilities because of being located either in the central city or in some adjacent small school district. Yet the fact still exists that the school is the one organization in most suburban communities which is in the position to take the lead in organizing the residents into effective group action.

Such situations are further complicated by very rapid population growth. For instance, the population of the four townships in which this study was made has increased from 11,359 in 1920, to 23,447 in 1930, to 34,774 in 1940. Local estimates place it at about 40,000 in 1948.

Another factor affecting such communities are the many agencies which are attempting to do something about the problems of the suburb. Located between the city and the country, there is a movement by a variety

of organizations into the areas from each of these directions. For instance, there may be a Farm Bureau or Grange, while at the same time many adult and youth organizations from the central city are attempting organizational work. Often there is little understanding or appreciation between representatives of these various programs. The city representatives may view the area as an extension of the city, and those from agricultural organizations see it as a somewhat crowded farm area. There is often a wide gap of social distance between these organizational representatives.

A statement which is often heard from people engaged in organizational work in suburban communities is that there are no leaders who are willing to do work for their communities, such as people do in rural and urban communities. Often their easy conclusion is that there are no leaders. The more probable factor is that these organizational programs are successful in cities and rural communities because there they are integrated into natural social groupings. In the suburb, where such grouping has not yet taken such definite form, there are more difficulties in organization. The problem is that not enough is known about the natural social organization which does exist. The probability is that there are natural groupings with leadership, most likely on a small neighborhood basis. If this is the natural structure which has formed, it is highly probable that the broader community organization will be successful to the extent which it ties in with this seemingly unorganized group and leadership structure.

In considering the stratification pattern of such communities, the settlement customs are of interest. Newcomers are likely to think in terms of a favorable home location, low taxes, and other such factors, looking primarily at the immediate small street or neighborhood. The occupational and social class pattern of the larger high school centered community is difficult to determine by casual observation. Although suburban areas tend to develop in a subdivision pattern, probably the broader community will contain more occupations than exist in any rural community, and possibly as many as exist in the whole central city, only centered in one high school community.

In considering the stratification patterns of suburbs the writings of the earlier historian Frederick Jackson Turner are of interest. One of his observations is that there was more association across established class lines in the American frontier than in more established communities.⁴ Recognizing the difficulty of such comparison, the suburban community has some

⁴Edwards, Everett E., *The Early Writings of Frederick Jackson Turner*. The University of Wisconsin Press, 1938, pp. 185-229, The Significance of the Frontier.

of the characteristics of the frontier. It has many newcomers who have come from different locations, and problems which can be solved only by group action, but does not have an established means of meeting these needs.

The following data will not test the hypothesis that there is more cross class association in suburbs, because it deals only with the 7th and 11th grade students of the schools. There is no information available yet on adult associations. However, it would appear likely that if strong association lines exist among adults in the communities on the basis of occupation, probably these would be reflected also in the school clique pattern.⁵

The cleavage data were obtained by asking the following question as one item in a questionnaire administered to groups of students in their classrooms: "Will you please give the first and last names of your three best friends in your school; that is the three whom you like to run around with the most?" Although these were administered to all the schools in the area, only two schools have been selected for analysis here. In several others analysis has been made of the sociometric pattern, and the results appear to be the same as for the two schools selected.

In analyzing the data, first a sociogram was prepared showing sex of the child and occupation of father. The Hollerith cards were then pulled for all the students who had been selected three or more times, and for those who had been rejected three or more times. These were run by many items of the questionnaire, but few differences were found between these two groupings.⁶ Of interest is the finding that *no* wide differences were found between the group based on fathers' occupations.⁷

The Hollerith cards were next sorted for each clique in the schools selected for analysis. Through occupational analysis of the cliques, it was again found that clique memberships crossed many fathers' occupation lines. Also no consistent basis for clique membership could be found on any item of the questionnaire. It can be concluded that probably personality factors, not included in the study, are the more important and that such factors as family status are of lesser importance. Later verbal information

⁵Cook, Lloyd Allen, "An Experimental Sociographic Study of a Stratified Tenth Grade Class," *American Sociological Review*, 10 (April 1945) pp. 250-261.

⁶These items include interests, aspirations, problems, as well as family mobility, and other data. One clique consisted of children whose families had moved more frequently than others.

⁷These are all White students. No Negroes were found in any of the schools studied.

from school officials indicates that geographic location may be a factor in clique formation; however the data are not yet compiled for this analysis.

The immediate problem here is to test the hypothesis that occupation of father is not a significant factor in the cleavage pattern of the 7th and 11th grades in the schools selected for analysis. It might be added, in the absence of very much concrete data, that the schools selected appear to be as typical of the whole suburban area as any other schools which might be used. As school districts do not follow any regular lines such as townships on which census data are available, it is difficult to get data for stratification in selecting a representative sample.

TABLE I
ASSOCIATION CHOICES OF 11TH GRADE STUDENTS OF KEARSLEY SCHOOL, SUBURBAN AREA OF FLINT, MICHIGAN, APRIL 1947, BY OCCUPATION OF FATHER

Selectors of Choices, by Occupation of Father	Students Chosen, by Occupation of Father:			Total
	Professional, Proprietary, and White Collar	Skilled and Foremen	Semi-skilled and Unskilled	
Professional, Proprietary and White Collar	6	9	13	28
Skilled and Foremen	11	14	21	46
Semi-skilled and Unskilled	12	23	24	59
Total	29	46	58	133

As shown in Table I, there is no significant relationship between the occupations of the fathers of the "choosers", and the occupations of the fathers of the "chosen". In computing the Chi Square, it is found that the difference between the observed choices and expected choices across occupational groups would occur by chance in 80 to 90 per cent of the cases.

TABLE II
ASSOCIATION CHOICES OF THE 7TH GRADE STUDENTS OF BEECHER SCHOOL, SUBURBAN AREA OF FLINT, MICHIGAN, APRIL 1947, BY OCCUPATION OF FATHER

Selectors of Choices, by Occupation of Father	Students Chosen, by Occupation of Father:			Total
	Professional, Proprietary, and White Collar	Skilled and Foremen	Semi-skilled and Unskilled	
Professional, Proprietary and White Collar	1	5	9	15
Skilled and Foremen	8	8	25	41
Semi-Skilled and Unskilled	10	28	55	93
Total	19	41	89	149

Thus there is no evidence that occupation of father is a factor in determining the friendship patterns of the 11th grade students in this school.

Table II presents the choices for the 7th grade students of Beecher School. The results are similar to those found for Kearsley School. The Chi Square computed from this contingency table shows that the cleavages as indicated by the difference in the observed and expected frequencies could in 50 to 70 times out of a hundred have been due to chance. Chart I presents the sociogram for this grade by sex of child and occupation of father. Here is shown graphically the extent to which fathers' occupational lines are crossed in the clique formations.

TABLE III

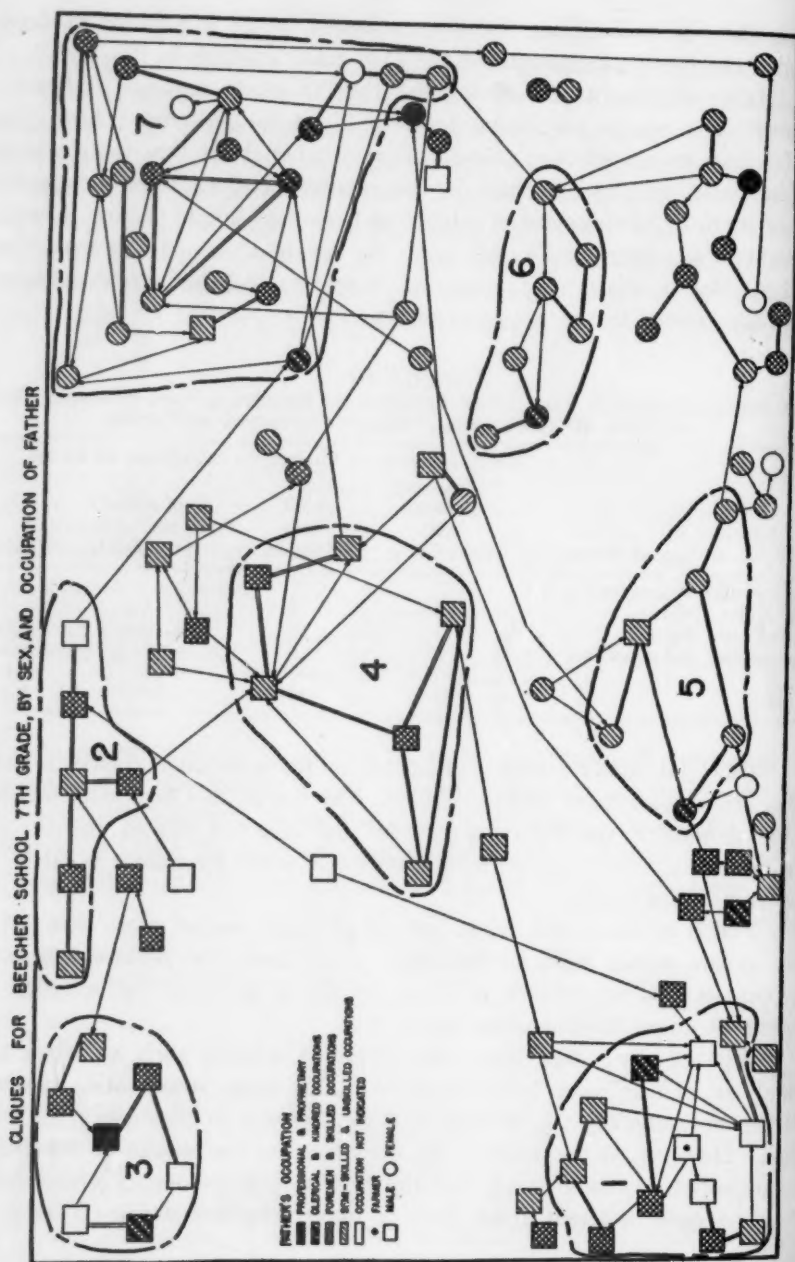
ASSOCIATION CHOICES OF 11TH GRADE STUDENTS OF BEECHER SCHOOL, SUBURBAN AREA OF FLINT, MICHIGAN, APRIL 1947, BY OCCUPATION OF FATHER

Selectors of Choices, by Occupation of Father	Students Chosen, by Occupation of Father:			Total
	Professional, Proprietary, and White Collar	Skilled and Foremen	Semi-skilled and Unskilled	
Professional, Proprietary and White Collar	3	5	5	13
Skilled and Foremen	3	10	17	30
Semi-skilled and Unskilled	7	19	33	59
Total	13	34	55	102

Table III shows a similar situation for the association choices for the 11th grade students of Beecher School. The computed Chi Square for this table shows that the difference between the observed choices and the expected choices across occupational lines would occur by chance in 50 to 70 per cent of the cases.

The P or more than 80 in one school grade and of more than 50 in two others would indicate that there is no basis for rejecting the null hypothesis that occupation of father is not a factor in the selection of friends in these two suburban schools.

Without more data from other types of schools, such as urban and rural, as well as more information about the adult stratification patterns in the communities, it is difficult to draw extensive implications from these data. However, if the findings do hold true for the adults of the fringe communities, it should mean that the problems of community organization may be quite different from those in more stratified areas. It may be



possible to anticipate the building of a more solidified community structure, if some social class lines tend to disappear when people live in suburbs.⁸

There may be other factors which influence the findings. It is possible that the age structure of suburbs is important, since there are more young families with children. Also more analysis is needed about the actual status level of particular occupations. It is possible that the Census classification of occupations may be different from the actual status given to different occupations in such a new industrial situation. The hypothesis that the school necessarily reflects the adult community stratification pattern needs further testing. It is possible that through the idealization of certain personality types, or of skills such as athletics, that high school age youth may reject certain of the parental patterns.

Although the findings of this study are not conclusive, they do point to a fruitful area of analysis. Probably one of the most important kinds of research needed in suburban areas are sound community studies. If occupation is not found to be the basis for stratification and cleavage in such communities, this should be important to all kinds of community planning, including education, religion, zoning and subdivision, and other areas of community organization.

⁸Data have been collected in connection with another study which will make it possible to compare these findings with a variety of other types of communities.

THE FAMILY DOCTOR SOCIOMETRIC RELATIONSHIPS

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In connection with a study of health and health facilities of farm families in Michigan an inquiry was made to find out if each one had a family doctor. Such a doctor was considered to be one that the family felt acquainted with and would call if any member of the family became ill. When a family stated that it had such a doctor then the location of his office was ascertained.

A total of 306 families were interviewed.¹ Of this number 238, or 77 per cent of the total, stated that they did have a family doctor. In a few cases the relationship was somewhat tenuous. Ordinarily, however, the families declared that they had kept the same doctor for many years.

The principal point of interest from the standpoint of Sociometry in this study is the fact that many families did not name a doctor in their nearest trade center, but would go to one whom they liked or had become acquainted with, even though his office was in a more distant town or city. Figure I illustrates the extent of this tendency in one of the three counties in which the study was made.

The county shown in this figure is Kent County in which the city of Grand Rapids (population 164,292) is located. There were general practitioners and specialists of various kinds in that city. One might expect that families who were reasonably close to Grand Rapids would go to doctors there. But many families did not. For instance, several families south of Grand Rapids went to a doctor in Caledonia which was approximately as many miles from their home as was Grand Rapids. Two families in the trade area of Cedar Springs traveled 20 miles or more to a doctor in Grand Rapids, though there were doctors in Cedar Springs which was only a short distance away. Likewise two families living in another neighborhood in the Cedar Springs area went to a doctor in Sparta which was a greater distance from them than was Cedar Springs. In a third neighborhood near the edge of the trade area of Cedar Springs community one family went to Grand Rapids and two to Sparta. In the Byron Center community two families went elsewhere for medical service. One had a family doctor in Grand Rapids and one went to a doctor in Grandville, a suburb of that city.

Such facts indicate that social interaction between a family and a doctor

¹This study was made in connection with a research project of the Michigan Agricultural Experiment Station and is reported in detail in Special Bulletin 352 published by that Station, September, 1948.

is an important element in medical service. The study suggests that psychosocial factors in doctor-patient relationships may be more important than convenience in the process of selecting a family doctor.

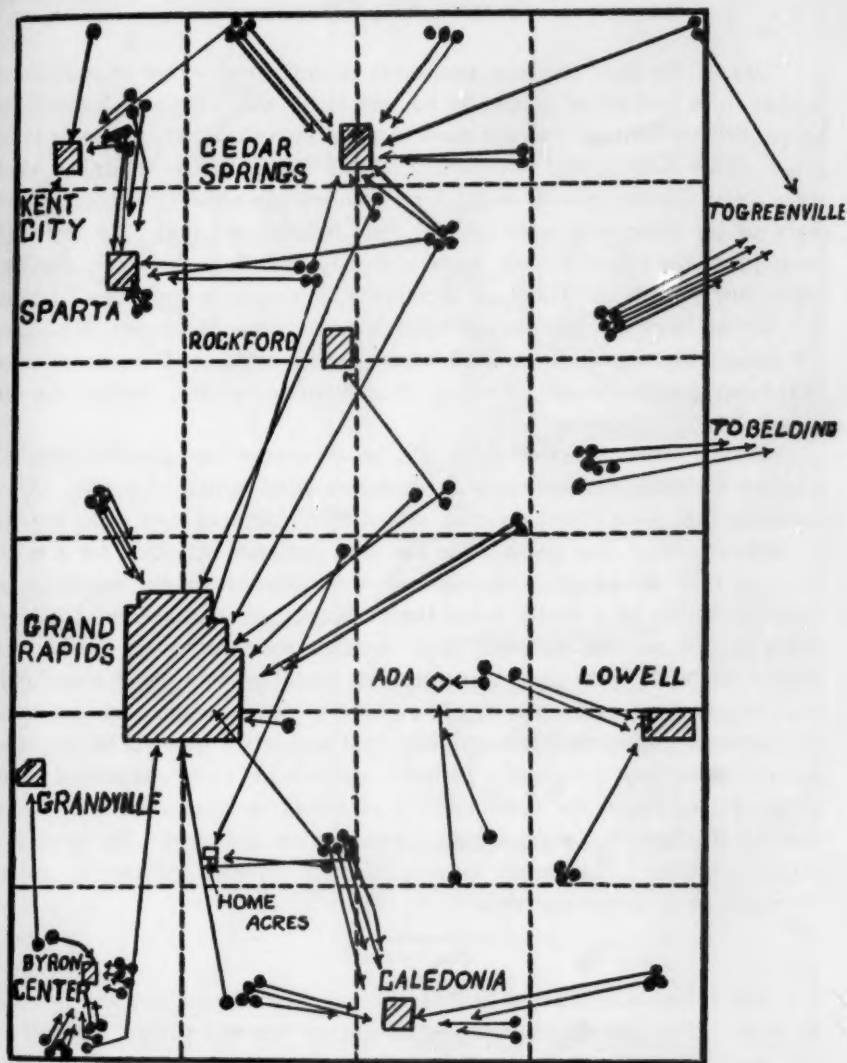


FIGURE I.

Location of family physician of families in Kent County, Michigan, 1946. Symbols without connecting lines to towns represent families not reporting a family doctor.

MEASURING RURAL URBAN AND FARM AND NON-FARM CLEAVAGES IN A RURAL CONSOLIDATED SCHOOL

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One of the most common arguments against rural school consolidation is that rural and urban people do not get along well together. Some farm people believe town children are more immoral than their own and some town people think rural people are uncultured and impolite. On the other hand some argue that since most of the farm children leave the farm they should learn to get along with town people. Also it is argued that it is better to have John, the future farmer, know and play with Joe, the future banker, when they are young. These are arguments in favor of school consolidation.

Earlier there was considerable rural urban cleavage in Edmore, Michigan, the community on which we shall report in this article.¹ Does it continue in the consolidated school? We shall attempt to answer this through the use of sociometric techniques.

If this proves effective there will be no excuse for speculating as to whether consolidation increases or decreases rural urban cleavages. Also, assuming that some cleavages exist, school administrators may make studies to determine what size towns make the most optimum situation for a minimum of rural urban or farm non-farm cleavage. Maximum reduction of cleavages might be a better index than efficiency of money expenditure in terms of cost per teacher pupil hour or other measures used. To be sure the present study is merely exploratory, but school systems which spend millions in school reorganization should attempt to devise methods of determining optimum conditions for integrating rural and urban students in play and general interaction. Sociometry herewith makes a bid to be considered as an instrument useful in the determination of school reorganization policy. In view of the fact that rural school reorganization is perhaps the most important problem facing many sections of rural America, sociometry enters the scene at an opportune time.

Background

The village of Edmore is located in Home Township, Montcalm County, Michigan. Two paved highways pass through or near the village. One, M-46 runs east and west across the State and forms the main street of Edmore.

¹The location of the town and school to be studied may be seen from Figures 1 and 2.





The other, M-66 runs north and south the length of the state. The Pere Marquette railroad forms a junction at Edmore. The county dirt roads are well kept, giving Edmore easy access to all parts of the county.

The village and its surrounding community is a rich farming region and is surrounded by natural gas and oil fields. It is principally a potato growing region but raises many and varied crops. It is especially rich in dairy products.

The people of this community are predominantly Danish, with a few Swiss, German, and English origin. For the most part their occupations are farming. The rest of the population is engaged in business connected with farming and which the farms support. The people of this community are rather stable except for the young adults, who in the majority, leave for employment in the cities of this state.

The village has a milk plant, bag factory, elevator, lumber yard, and is a railroad center. It has a modern, well equipped, hospital which meets not only the needs of this community but also, the needs of five surrounding communities.

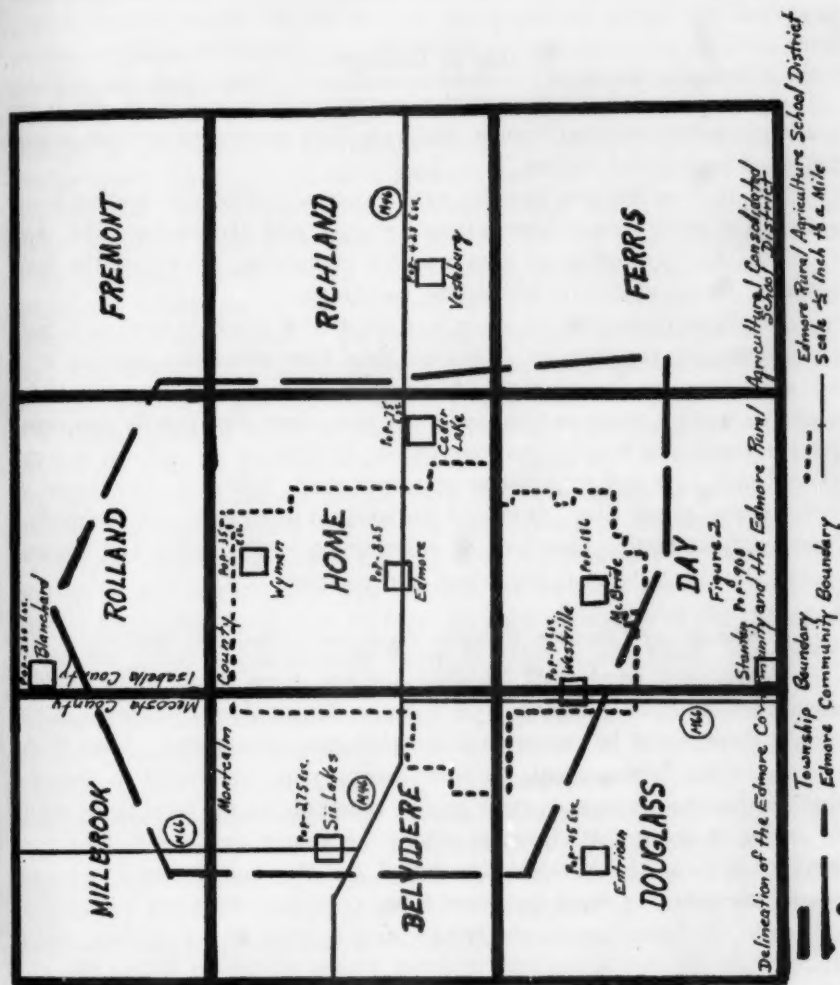
Edmore is rather self-sufficient being dependent only upon the city for luxuries and the finer things of life. There is a fine motion picture theater here and many lakes near by for summer recreation.

Edmore is in direct competition with Stanton on the south and Lakeview on the west. Stanton is located twelve miles south on M-66 and the line of demarkation is clear and distinct. Lakeview is located twelve miles west, just off M-46, but the line of demarkation is still in the process of change.

The Edmore High School

The Edmore high school is a graded school and is on the "approved" list of the Michigan State Department of Public Instruction, and is on the "accredited" list of the University of Michigan. It is a Rural Agricultural School and consolidated with the Fink and Graphville Districts in June 1942. In June 1945 the McBride District was annexed, and in 1946 the Six Lakes District made arrangements to send their high school students to Edmore. McBride is located four miles south of Edmore and Six Lakes six miles west, just off M-46. At present the McBride school is used as a grade school and the students are transported there by bus (see Figure 2). In the entire school there are 436 students; in the Junior High and High School there were 191 students.

The buildings are modern and up-to-date, but there is a need for more space as they are now taking care of all the students that space allows.



The school is well used by the community with the yearly Potato Show being held there, and the school being open to the community whenever they want to use its facilities. The school athletic field and gymnasium are used by the community which sponsors baseball and basketball teams each year.

Method of Investigation

A questionnaire² was developed to secure sociometric data in which the students named their best friends, and gave data relating to various personality and background factors.

The data of the questionnaire were supplemented by information available to the senior author from intimate contact with the *students and their families*. Another source of data was the cumulative record of the individual students which the school had assembled.

The heart of the present study was the sociometric data used as a basis for sociographic presentation. The main data from which this study is written are answers to the question; "If you had permission to leave school for a day to go on a picnic or trip, and could take some friends with you, what friends would you take? You may choose all boys or all girls or you can choose both boys and girls just as you want them. Give one, two, three, or more choices as you like." It should be explained that picnics are the method most used for getting together and entertaining in the spring and summer months by the children in the school and community.

Measure of Cleavage Between Farm and Non-Farm Students

If the total number of friendship choices were found to be divided among the different groups in proportion to the number of students in the groups there would be reason to doubt that cleavages existed. Thus if the choices of the farm students to other groups were distributed in the proportion that the students in these groups constitute of the total there would be reason to doubt that cleavages among the groups were great. The farm students had 263 choices within the school, and they constituted 51 per cent of the students, the rural non-farm 6 per cent, and the town students 43 per cent. If choices among the groups were determined by random choice, as might be the case if one took students' names written on ballots two at a time from an urn, the probability that choices would indicate cleavages between farm and non-farm students would depend on chance and various

²We are indebted to Orden C. Smucker for his many suggestions for improving the questionnaire. See appendix.

measures for the probability of such cleavages showing up are available. Assuming that the total volume of choosing by each group was the same the random situation would conform with the situation in which choices were conducted so that each group studied received choices from the farm in proportion to the number of students in the respective groups the 263 farm choices would be divided so that 134 would go to farm students; 16 to rural non-farm students; and 113 to town students. The actual observed choices were 151, 17, and 96 respectively. Thus if the number of choices were distributed in proportion to the number of farm students 134 of the farm choices would have gone to farm students and 129 to non-farm students. Actually 151 choices went to farm students and only 113 to non-farm students. Could these differences be due to chance? The chi square test offers a partial answer to this question. If the expected frequencies as determined above are subtracted from the observed frequencies and the result squared and divided by the expected frequency we have the chi square test. The probability of a chi square of a given size occurring due to chance once the degrees of freedom are known can be read from a table.

Table I offers a means of testing various hypotheses and indicates how the various tests for cleavage were computed. If we are interested in testing the hypothesis that farm students make their choices without reference to whether the choices made are of the same group or not and that their choices are distributed among the non-farm students in proportion to the number of students in the groups specified, we may add the chi squares for the friendship choices of farm to farm with the chi square of the choices of farm with non-farm. Thus as indicated in Table I, 2.15 added to 1.98 the result is the test for the hypothesis outlined. Since a chi square of 4.13 (1 degree of freedom) indicated that less than 5 times out of 100 would the observed results have been obtained from a sample of the size used if the hypothesis were true we have basis for its rejection, especially since the groups made a similar number of choices. (The average number of choices for each group were: farm 4.3, rural non-farm 4.5, and town 4.2).³ We may thus assume that in so far as our basis for comparison is meaningful, i.e., in so far as friendship choices reflect cleavages, cleavages between farm and non-farm students do exist. The cleavage index here used, i.e., the chi square test is, however, relatively small. Since the size of the chi squares similarly computed for other groups constitute a measure of cleavage one may easily determine which of the groups manifests the greatest in-group cleavages. Thus the rural non-farm students with a chi square of .532 are

³The similarity of these averages is particularly important for the cleavage analysis used in this study.

TABLE I
COMPUTATIONS FOR CHI SQUARE MEASURES OF CLEAVAGES* AS DETERMINED BY
QUESTIONNAIRE ANSWERS REPORTED BY JUNIOR HIGH AND SENIOR HIGH
STUDENTS OF THE EDMORE HIGH SCHOOL
1948

Direction of Choices		No. of Choices Observed (f)	No. of Choices Expected (f')	$\frac{(f-f')^2}{f'}$	Chi Squares	P
1.	Farm to Farm	151	134	2.15		
2.	Farm to Rural non-Farm	17	16	.062		
3.	Farm to Town	96	113	2.55		
a.	Farm to Rural non-Farm and Town	113	129	1.98		
A.	Total Farm: Chi Squares: Sum of three items above or (Chi Square: $1 + 2 + 3$) (2df)	263		4.76		.05 < P < .10
B.	E(Chi Square items = $1 + a$) (1df) (65 Farm Children; 51% of total)			4.13		.02 < P < .05
4.	Rural non-Farm to Farm	18	17	.058		
5.	Rural non-Farm to Rural non-Farm	1	2	.50		
6.	Rural non-Farm to Town	14	14	.00		
b.	Rural non-Farm to Farm and Town	32	31	.032		
C.	Total Rural non-Farm: (Chi Squares: items $4 + 5 + 6$) (2df)	33		.558		.70 < P < .80
D.	E(Chi Square items = $5 + b$) (1df) (7 Rural non-Farm children: 6% of total)			.532		.30 < P < .50
7.	Town to Farm	96	94	.042		
8.	Town to Rural non-Farm	15	13	.30		
9.	Town to Town	109	112	.080		
c.	Town to Rural non-Farm and Farm	111	107	.074		
E.	Total Town: (Chi Square items: $7 + 8 + 9$) (2df)	220		.422		.80 < P < .90
F.	E(Chi Square items = $9 + c$) (1df) (54 Town children: 43% of Total)			.154		.50 < P < .70
G.	Sum of Chi Square items = $B + D + F$ (2df)			4.82		.05 < P < .10
H.	Total Chi Square items = $A + C + E$ (6df) (Grand Total of all: 126)			5.77		.30 < P < .50

*We are indebted to Margaret Hagood for suggesting the procedure used in making the chi square analyses.

The chi squares to the right of the lines headed by the symbols B, D, and F test the hypothesis that students from the Farm, Rural non-Farm, and Town indicated to the left direct their friendship choices without reference to whether the choices are of the same group or not, and that their choices are distributed among the groups specified in proportion to the number of students in the group specified. Thus the chi square of 4.13 (1 degree of freedom), tested the hypothesis that farm students directed their friendship choices without reference to whether students chosen are farm or not and that their friendship choices are distributed between farm and non-farm students in proportion to the number of students in the two groups. The chi square which tests this indicates that less than 5 times out of 100 would the observed results have been obtained from a sample of the size used if the hypothesis were true. These chi squares (to the right of lines B, D, and F) may be compared to indicate which group manifests the greater in-group cleavages. Thus the farm students with a chi square of 4.13 manifests the greater tendency towards in-group cleavages. They are followed by the rural non-farm students with a chi square of .532 with 1 degree of freedom. (The chi square of .532 with one degree of freedom indicates a very small tendency towards in group cleavages).

The chi squares to the right of the lines headed by the symbols of A, C, and E test the hypothesis that the students of the group indicated to the left direct their friendship choices without references to where the students live and that their choices are distributed among students of different groups in proportion to the number of students in each of the three groups. For the farm students this chi square is 4.76 (2 degrees of freedom). The probability that this chi square would occur due to chance is greater than .05 and less than .10 which indicates that more than 5 times out of 100 but less than 10 times out of 100 would the observed results be obtained in a sample of the size used. If we consider the 5 per cent level as a basis for rejecting the hypothesis we are not justified in rejecting it.

A comparison of these chi squares, with 2 degrees of freedom indicate which groups are more affected by where they live generally. Thus the farm students register a chi square of 4.76 as compared with .558 for rural non-farm and .422 for town students.

The chi square to the right of symbol G (the sum of the chi squares to the right of B, D, and F) tests the hypothesis that friendship choices in the school is not affected by whether students are of the same group. Thus for the Edmore High School, the chi square value of 4.82 with 2 degrees of freedom indicates that friendship choices are affected by whether students are of the same group.

The chi square to the right of symbol H, (the sum of the chi squares at the right of symbols A, C, and E) tests the hypothesis that friendship choices in the school are dependent on the place of residence of the students. The chi square of 5.77 based on 6 degrees of freedom is significant, indicating a basis for rejecting the hypothesis.

next and are followed by town students with a chi square of .154 with one degree of freedom. (A chi square of .532 and .154 would indicate that there is little in group cleavage in these groups).

Another approach to the problem of ascertaining the characteristic of cleavage may be made from the above assumption if the hypothesis is advanced that farm students make their choices without reference to whether students are farm students, rural non-farm, or town students, and that their choices are distributed among students of different groups in the school in proportion to the number of students in each of the three groups. The chi square which tests this hypothesis is calculated by adding the chi squares calculated for the friendship choices of farm to farm (2.15) farm to rural non-farm (.062) and farm to town (2.55) which results in a chi square of 4.76 (two degrees of freedom). The P value for this chi square

is $.05 < P < .10$ which indicates some possibility of cleavage as the difference would occur due to chance only from 5 to 10 times in a hundred. Chi squares similarly calculated for other groups as included in Table I indicate which are more affected by where they live. Thus the rural non-farm students register a chi square of .558 and town students a chi square of .422.

The systemized arrangement of the chi squares in Table I makes it possible to consider the problem of cleavage in the Edmore High School as a general phenomena. Thus the sum of the chi squares to the right of symbols B, D, and F, (each of which tested the hypothesis that members of a given group made their friendship choices without reference to whether the students chosen were of the same group or not) tests the hypothesis that friendship choices in the school are not affected by whether students are of the same group. For the High School this chi square value is 4.82 (with two degrees of freedom). Since the measure produces a probable error of $.05 < P < .10$ it may be statistically significant.

Similarly we may test the hypothesis that friendship choices in the school are independent of the place of residence of particular groups. The chi squares to the right of the symbols A, C, and E when added amount to 5.77 based on 6 degrees of freedom which is significant and indicates that the hypothesis must be accepted and that it is not safe under the above assumptions to state that friendship choices in the school are affected by the place of residence of the students.

Some of the important findings of the study are:

1. Friendship choices flow from Farm to non-Farm students freely and show no or very little cleavage between these students. A counting of lines in the various sociograms⁴ shows an almost equal percentage of choices going to Farm and non-Farm students from each group. Each group had certain individuals in their midst who were more popular than the rest and who received more friendship choices than did other students. Also there were certain individuals who made choices to other students but received no choices in return.

It can be seen by looking at the sociograms that there are many mutual friendship choices made between Farm and non-Farm students.

2. The differences in friendship choice in this school related more to variations in behavior characteristics, personal qualities, values and moral standards displayed in the interaction *between students* than anything else. This was very apparent in the rejection choice of the students. Personal

⁴Sociograms for all classes were drawn but are omitted because of cost of reproduction.

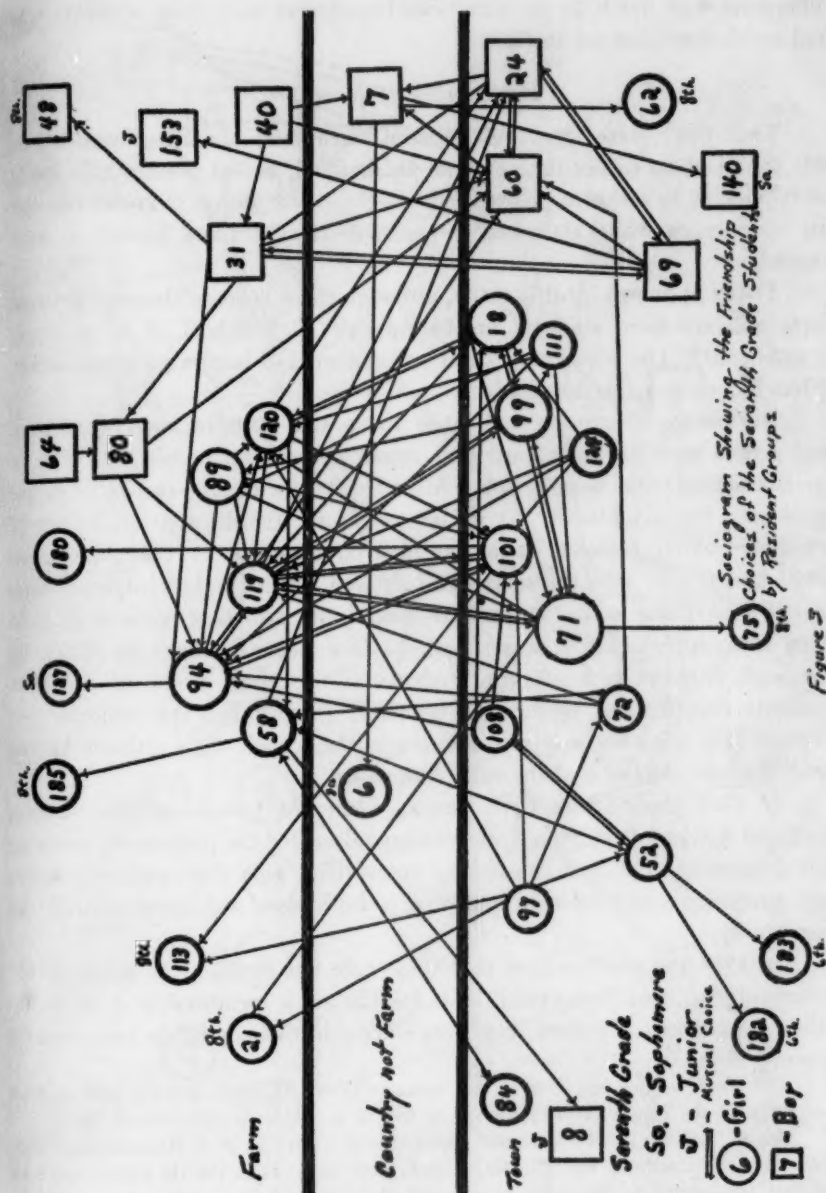


Figure 3

differences had much to do with rejection choices and those students who had no choices directed to them.

Explanation of Results

That there were cleavages between Farm and non-Farm students in this school at an earlier date can not be doubted, but at present this would be impossible to measure. However from the senior author's⁵ knowledge and his experiences while attending this school, cleavages are known to have existed.

Today as shown by this study, although there is some cleavage between farm and non-farm students in the Edmore High School, it is relatively insignificant.⁶ The school today is a well unified and integrated organization. What has caused this integration?

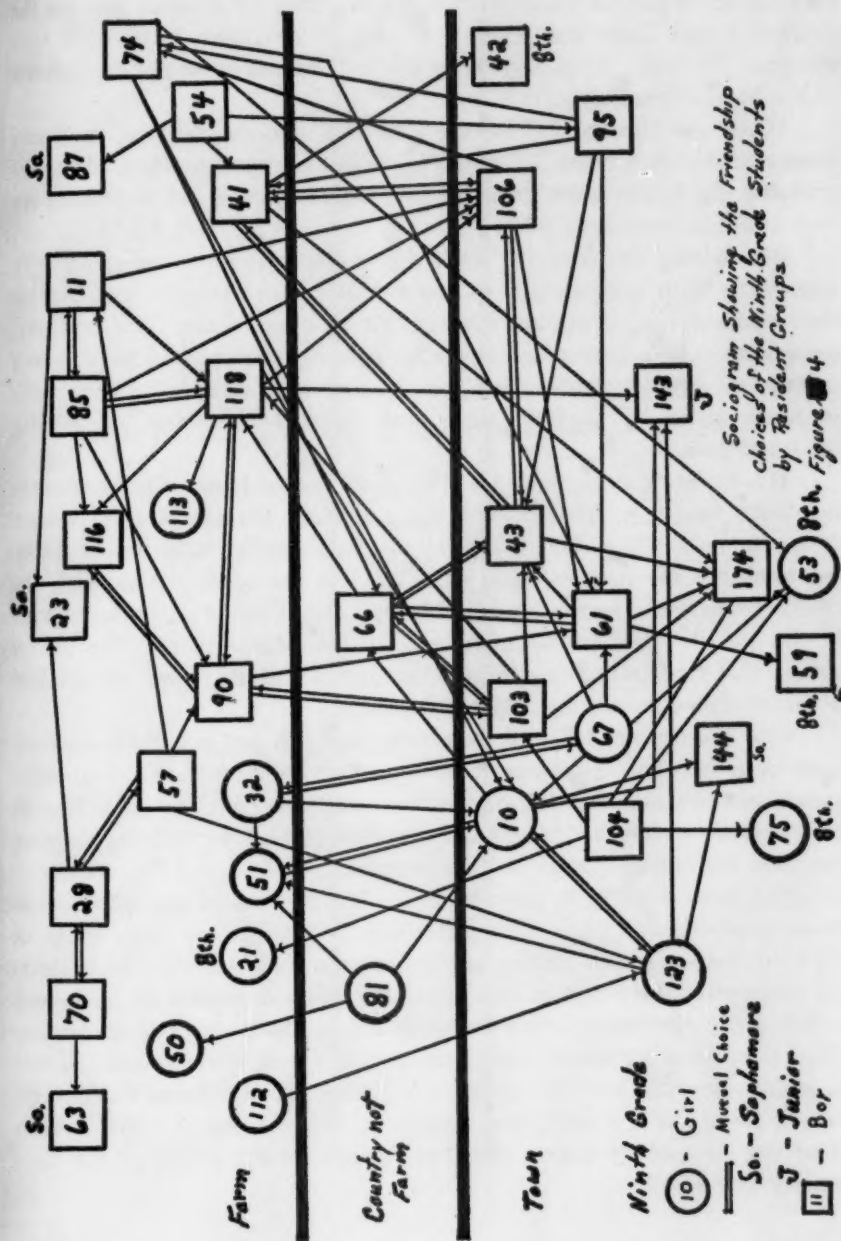
During the depression and when roads and transportation were poor, and people were having a hard time existing, the farm people had little or no interaction with town people. After the banks closed, the farm people were hard hit and blamed the village people for the disaster. A feeling of mistrust existed between farm and non-farm people of the community. This carried over into the school and showed up in the lack of attendance of *extra-curricular activities* such as dances and athletics by farm children even when transportation was supplied. This cleavage might be shown by the high drop-out rate of farm students at this time. Some of the farm students dropped out because of economic reasons but the majority left because they felt they were not welcome in the school. This attitude existed until the late thirties and the early war years.

In 1938 the Edmore Civic Service Club was formed by the business men and women of the village. It was organized for the purpose of bettering and promoting civic and community enterprise. This club was very active and progressive and brought many new businesses and services into the community.

In 1944 the club realized that they were not meeting the needs of the community as best they could, so it established a membership drive to include the farmers. To show they were sincere in their desire to have farmers

⁵The senior author has lived in this community for 28 years and has had intimate contact with the people through his father who is a doctor in this community.

⁶See C. P. Loomis, "Political and Occupational Cleavages in a Hanoverian Village, Germany." *SOCIOMETRY*, Vol. IX, No. 4, November 1946. Here the chi square score for farmers comparable to the score (4.76) after A in table I was 20.87 with a probable error much less than .01. An over-all cleavage score for the occupations for the German village (item J) was 51.88 as compared with 5.77 in the present study.



take an active part in the organization and village affairs they put on the Edmore Potato Show and asked a number of prominent farmers to take charge of the show. They also added stock shows and horse pulling contests to the homecoming celebration.

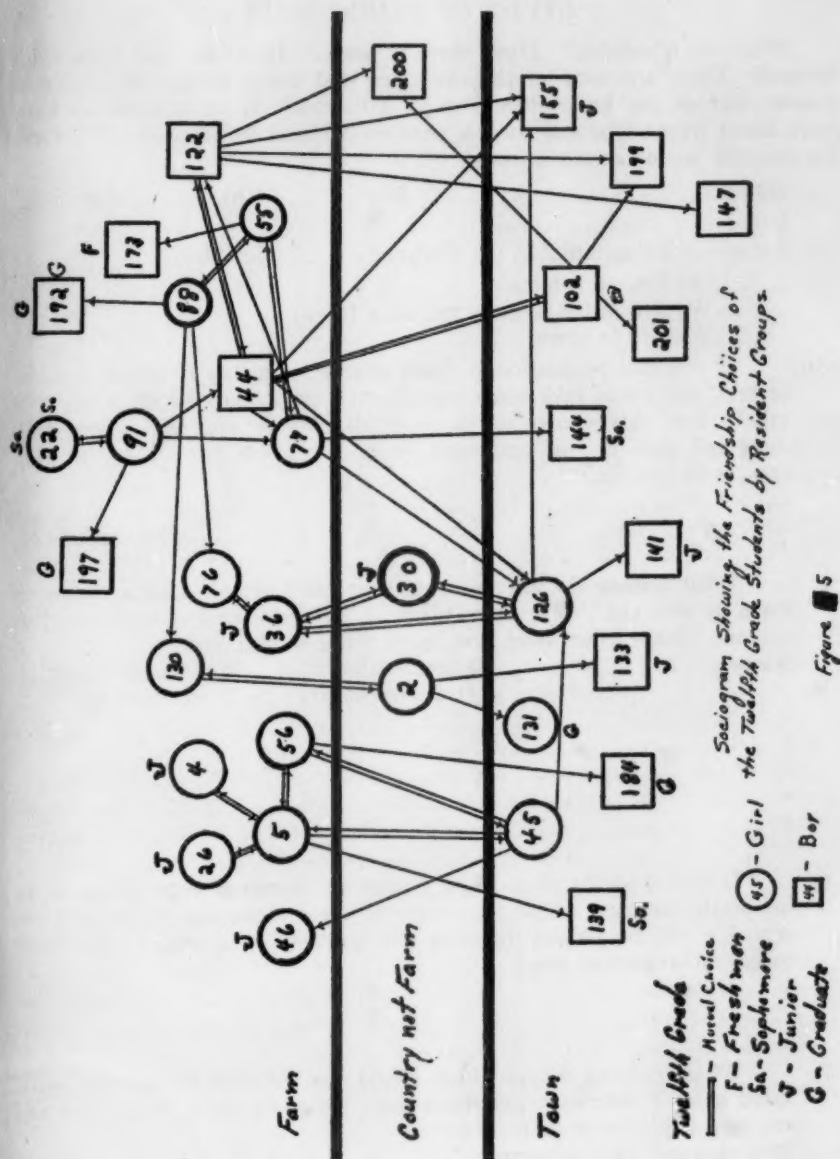
When the farmers realized that the club and the business men and women of the village were sincere their attitude changed, slowly at first, but gradually the farmers took greater interest in the village and at present are very active in community affairs.

Also during this time the roads and transportation in the community improved. With improvement in transportation the students had cars of their own and more opportunity to interact with each other. The farm students were in the village more often after school hours, and had more chance to meet the town students. Also, their parents were making frequent visits to people in the village which again gave the students greater opportunity for interaction.

It was during these years that the school consolidated. This movement put farm persons on the school board and made the school their school. This combined with greater interaction of farm families with town families was probably the greatest force for integrating the school. Also, with the consolidation there were as many or more farm students as town students in the school. The consolidation brought farm students into the school earlier and kept them there longer than before and this gave the student a better chance to interact and make friends.

One more reason for good integration of Farm and non-Farm students must be given. This is the sincere effort made by the teachers and administrators of the school to integrate the Farm and non-Farm students through the various activities of the school. Also, this has helped to bring together the farm and village people of the community.

One more thing must be mentioned. The students in this school come from three different towns. One, McBride, is located four miles south of Edmore, and the school building there used as a grade school. The students are transported there by bus. The other, Six Lakes, is located six miles west of Edmore and are transporting their high school students to Edmore by bus. Then there are the students from Edmore. Thus some town students as well as country students were not at home in Edmore. Nevertheless the integration of the Farm and non-Farm students as indicated by this study shows what can be done by sincere effort on the part of the people of the community and school.



A STUDY OF FRIENDSHIPS

What is friendship? How does it work? How are the friendships formed? These are some of the questions that many people are trying to answer, but as yet know little about. This study is an attempt to learn more about friendships and we ask your cooperation in filling out this form. No one will see what you answer.

1. Name Boy..... Girl..... Age.....
Grade.....

2. Religion: Protestant..... Catholic..... Jewish.....

3.We live on a farm.

.....We live in the country not on a farm.

.....We live in town.

4. If you had permission to leave school for a day to go on a picnic or trip, and could take some friends with you, what friends would you take? You may choose all boys or all girls or you can choose both boys and girls just as you want them. Give one, two, three, or more choices as you like.

1..... 4.....

2..... 5.....

3.....

5. What friends do your parents visit most often? List as many of them as you can. Give their place of residence and occupation. List the one visited most often first, next often second, etc.

Name:	Where do they live? (town or country)	What is the father's occupation?
1.....
2.....
3.....
4.....
4.....
5.....

6. If five students were to be chosen to represent your school at an important meeting where they were to meet Governor Sigler, and the school would be judged by these five students, who would you choose to go and represent you?

1..... 4.....

2..... 5.....

3.....

7. What students do you think would best fit each of the statements listed below? You may put down more than one name if you like and any boy or girl more than once.

Best dressed, best groomed.....

Best athlete.....

Has few friends.....

Most likeable, easy to know.....

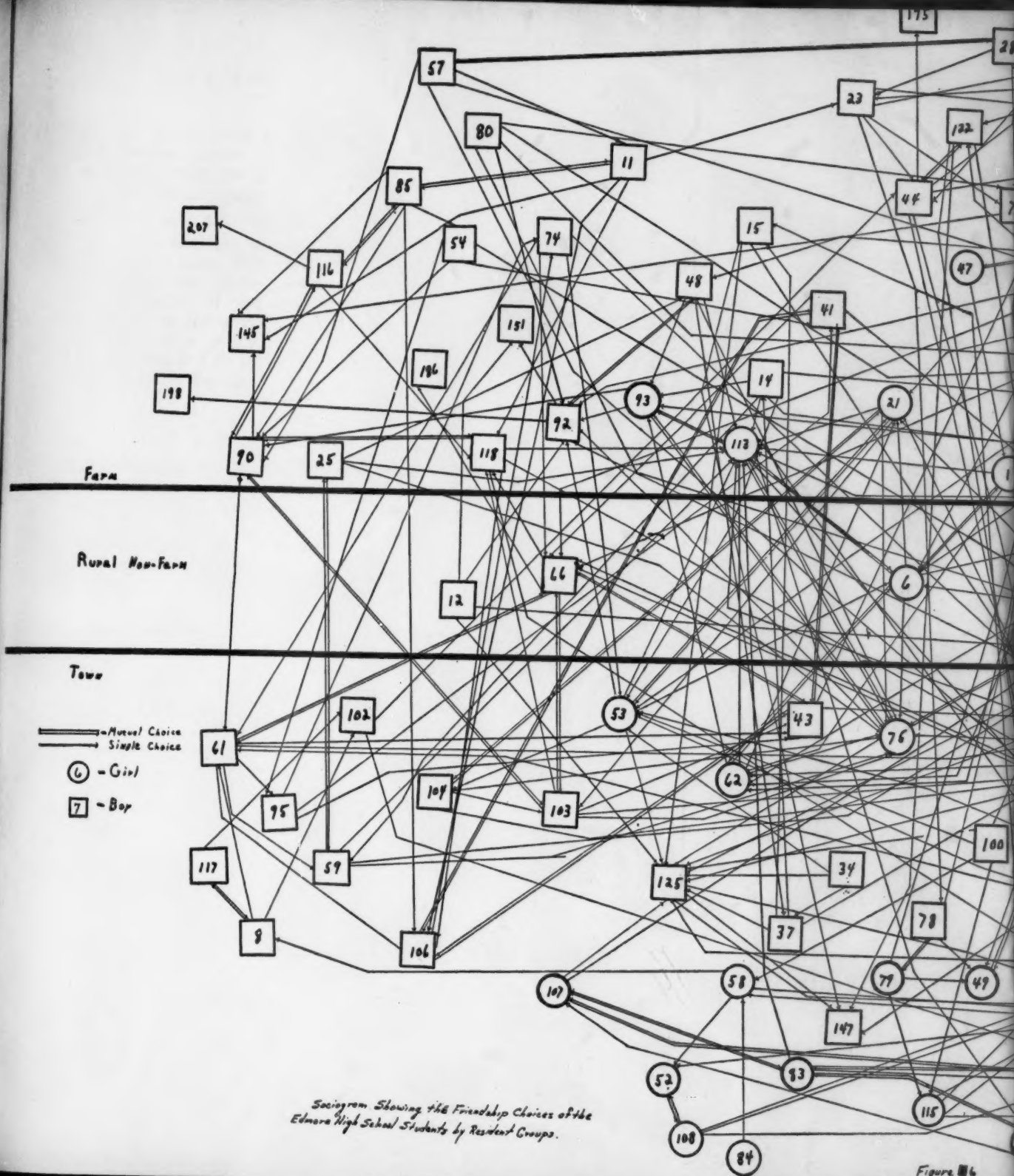
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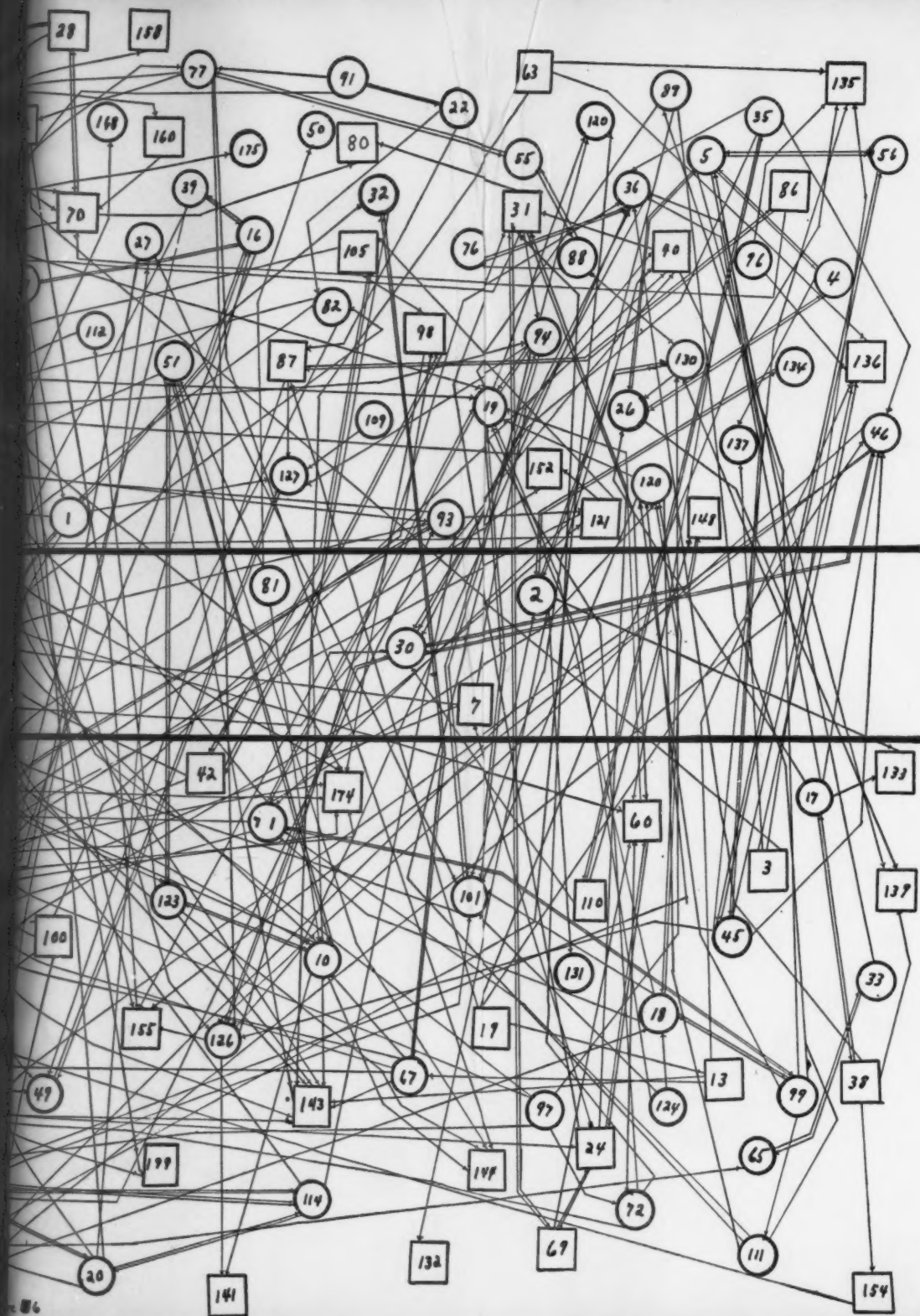
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- 8.
- 9.
- 10.

Hardest to approach, somewhat snobbish.....
Outstanding leader.....
Somewhat crude, not polite, not considerate.....

8. What is the occupation of your father?.....
9. Where do your parents do their trading?.....

10. Below is a map which includes Edmore, McBride, Six Lakes, Wyman, Cedar Lake, Westville, and Entrican. On this map place a dot where you live. Make it plain enough to be seen.

Example: If you lived one and one-half ($1\frac{1}{2}$) miles south of Entrican, on the north-west side of the intersection, you would place the dot as it is on the map.

If you live in town place a dot at the approximate location of your home in the square.

SOCIOMETRY, 1937-1947: THEORY AND METHODS*

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In eleven years of publication, the journal *SOCIOMETRY* has presented to its readers a wide variety of articles dealing with sociometric theory and methods. The purpose of this paper is to provide a systematic frame of reference for examining articles on sociometry published during the years 1937-1947. As a guide in the selection of articles, Bronfenbrenner's (3) definition of sociometry has been used: "Sociometry is a method for discovering, describing, and evaluating social status, structure, and development through measuring the extent of acceptance or rejection in social groups."

THEORY

Sociometry, as defined by Bronfenbrenner (3, p. 364), has its theoretical foundation in the work of J. L. Moreno (41). A creative genius with great powers of salesmanship, Moreno has evoked both sentiments of admiration and resentment among colleagues in the social sciences (68). Definitions of sociometry range from Chapin's (4) conception which includes both measures of social interaction and socio-economic status, to Dodd's (14) restricted conception of sociometry as a sub-field of sociology—the study of interhuman phenomena. To Moreno and Jennings however, sociometry is itself a discipline: broadly applicable to human cultural orders (25, 43, 44, 45, 47, 50) and to sub-human societies (69) as well. In a review of the Toronto studies, Northway (56, p. 196) has demonstrated the extent to which sociometry has cut across lines of more traditional subject matter areas, e.g., sociology, psychology, and education.

Basic to sociometry is the assumption that a social group is effective in proportion as individuals within the group spontaneously accept each other as collaborators in activities meaningful to the group, e.g., visiting each other, working together, living and eating together, engaging in recreational pursuits, etc. A corollary is that individual personalities within a social group achieve fullest development of potentialities when group mem-

*The authors are grateful for the helpful suggestions of Dr. J. L. Moreno in the preparation of this manuscript.

bers spontaneously accept each other. Individuals within social groups interact toward or away from each other on the basis of postulated *emotional feelings* for each other, or *tele relationships*. The spontaneous "flow" of *tele* to and from an individual in common life situations defines his *social atom*, which presumably extends into more than one social group even in primitive cultures¹ (41, 48).

These assertions about group "effectiveness," "realization" of individual personalities within groups, and the *tele*-postulate have provided the foundation for numerous investigations of interpersonal relations, many of which have been published in SOCIOMETRY. Before classifying and evaluating these researches, however, let us examine some of the pitfalls to which we are led by uncritical acceptance of sociometric theory.

1. Acceptance of spontaneous choice-patterns as the criterion of "desirable" or "effective" interpersonal relations has led to a first source of error. This implies the value-judgment that a relatively high frequency of reciprocal acceptance in social groups under conditions "permitting" free expression of feeling is *good*. Such a cultural absolute *may* be universally accepted as valid, but unfortunately we lack substantiating evidence.²

2. A second source of error is found in hasty generalization from an individual's choice status in one social group, e.g., classroom, work group, play group, to other social groups. As Linton (33, p. 367) has indicated, individuals in primitive societies, even, "are classified and organized in different ways simultaneously." This same type of error may be found in generalizations from an individual's choice-status in a community composed of many social groups. Faris's (15) report on ecological factors in behavior disorders leads us to question seriously the validity of such generalization, and Jennings (28) has warned against generalizing from the choice-status of an individual in a correctional institution to her choice-status outside³.

Failure to consider sociometric *structure* as part of ongoing social *process* gives rise to another form of hasty generalization. This kind of error has been discussed by Jennings (24) and Inkeles (22), the latter however, pointing to a developing awareness among sociometrists of the time-dimension as an important variable.

Jennings (27, 28) has given emphasis to the time-variable in her study

¹Cf. Linton (33, p. 367).

²Moreno's "Sociometry, Comtism, and Marxism" (45).

³Studies by Moreno, Jennings, and others in the N. Y. State Training School for Girls should be cautiously interpreted in this connection.

of leaders and isolates in the New York State Training School for girls. She found a relatively stable social psychological structure in a test community despite a changing membership in the community and a tendency for individuals to shift upward or downward in choice-status.

3. A third source of error may be found in the *reductional explanation* (9, pp. 152-154) of sociometric phenomena. In the desire to reduce the content of a sociometric phenomenon to its essentials, one is apt to oversimplify. This is exemplified in the assertion that the frequently chosen individual in a social group is "well-adjusted." Actually, one has but stated that the frequently chosen individual in a social group is frequently chosen, *unless* one has validated the choice-measure against other criteria of adjustment within a given social group or culture, or unless "adjustment" has been narrowly defined in terms of choice only. We need to know, for example, more of the relationship between an individual's choice-status in a given social group and his organized perceptions of himself and his world (62)⁴.

That this is a potentially fruitful area of exploration is indicated in the experiment reported by Northway and Wigdor (57) in which children frequently and rarely chosen were found to have significantly and meaningfully different response patterns on the *Rorschach Ink Blot Test*. Jennings' (17, 28) observation that leaders in a community have different personality "styles" lends further support to our contention. Jennings has explicitly recognized the importance of organized self- and world-perceptions in her differentiation between an individual's *psychegroup* and *sociogroup* relations; the latter perceptual relations being collective and impersonal, the former private and personal. We must examine an individual's social atom against these criteria, according to Jennings' hypothesis.

Moreover, use of the choice-criterion is limiting in the sense of emphasizing the single factor in the investigation of social and psychological phenomena. Sociometry allows us to control and measure interpersonal and intergroup relationships with such ease that we may be lulled into believing that laws of nature may be expressed with equal simplicity. The dispassionate observer, however, may well conclude that we are too doctrinaire or too limited in facilities to investigate more than one narrow aspect of our problem (16, pp. 100-101).

It should be pointed out that Moreno and Jennings (48; pp. 346 ff.)

⁴Equally restricting from our point of view is the "organization of self-perceptions" as the sole criterion of adjustment. Rogers (58) has boldly endorsed this notion of an interiorized criterion.

have described sociometry as a *multifactor* method, although sociometrists have been more preoccupied with sociometric tests than with other procedures.

It is our contention that much of what has been written about sociometry needs to be reexamined critically and systematically in the light of present knowledge about the interactions of individuals in social systems as gathered by social scientists in related areas. Among contemporaneous social sciences, sociometry is no longer a rejected step-child, grown ungainly and arrogant in isolation. That it has attained the status of fruitful hypothesis is attested to by the wealth of descriptive and experimental studies which have drawn upon its formulations—not only in Sociometry but many other social science journals. That it has not yet achieved its greatest possible status becomes apparent in the examination of methodological contributions and experimental findings which has been attempted in this paper.

METHODS

Essential Techniques

Franz (19) made a comprehensive survey of sociometric techniques in 1939, defining five major technical contributions: the sociometric test, spontaneity test, the sociogram, sociometric assignment, and spontaneity training. In retrospect, four other major contributions stand out which have since been further developed, acquaintance test, role test, interaction test⁶ and process analysis.

The sociometric test. This evolved from Moreno's idea of measuring interpersonal relations as reflected in the choice patterns of individuals in social groups. By 1939 a number of choice criteria had been applied in a variety of social situations: e.g., living together, working together, sitting together at meals, sitting together in the classroom, village friendships, neighborhood friendships in new communities, working together on committees, inter-family visiting relationships, exchanging work, and borrowing tools. Practical experience with sociometric testing had led Moreno (41, pp. 14-15) to state that the test should be "a motive, an incentive, a purpose, primarily for the subject, instead of for the tester." Interpersonal relationships, according to this hypothesis, are best revealed when those tested are assured of consequences to their actions, "when the results of the test are or can be put into

⁶"Das Stegreiftheater," J. L. Moreno, Berlin, 1923; translated into English "The Theatre of Spontaneity", published by Beacon House, New York, 1947.

immediate operation" (19, p. 77). Sociometric tests may be supplemented by individual interviews in which clarification of expressed choices may be obtained (19, p. 78).

In the period 1939-1947, the sociometric test has changed but little in its essential characteristics. Individuals in a given social group are asked to name other individuals in the group with whom they wish to associate, or wish to avoid, or toward whom they are indifferent; choices are made in terms of specific criteria identical with or similar to those listed by Franz. The request to list choices may be followed by an "open-end" question, calling for subjective evaluation by the investigator, such as: "What are the reasons for your choice?" Sociometric tests are given in face to face meetings or in the form of questionnaires which call for written responses. In order to obtain a pattern of choices received and given, the identity of the respondent must be known.

Methodologically, the sociometric test has been a valuable contribution to the measurement of interpersonal and intergroup relations:

(1) It has provided a basis for objectively measuring an individual's acceptance, rejection, or isolation by his peers in social groups; how he feels toward others and how they feel toward him.

(2) It has provided a basis for investigating social structure and process through enabling us to measure objectively networks of communication within and among social groups.

"Near-sociometric" tests, such as the *Ohio State Social Recognition* and *Social Acceptance* scales, have also been developed. These differ from the "pure" sociometric test in two ways: (1) respondents in the group are not asked to identify themselves hence a measure is obtained only of choices received, and (2) subjects in a group are asked to make judgments about each other, such as "Who is always a good sport?" "Who cries a lot?" "Who makes friends easily?" (cf., 12, 60).

Though the "near-sociometric" technique has not been accepted by "pure" sociometrists, it may prove a valuable addition to the methodology of investigating human personalities and human interaction. In connection with sociometric theory (see preceding section) we have already seen the need for studying the relationship between an individual's self-perceptions and the ways in which he is perceived by others. "Near-sociometric" techniques supplement sociometric and psychometric methods in providing additional sources of information concerning perceptions of individual personalities and role-functions in social groups.

Spontaneity test. This technique provides "a deeper exploration of a

subject's attraction-repulsion pattern as revealed by the sociometric test." The subject "improvises freely" in a "standard life situation." Record is made of emotion portrayed, such as anger, fear, dominance, or sympathy of words spoken, and of the duration of the emotional "act". Record is also kept of responses by individuals acting opposite the subject. This test is spoken of as an intensification of the sociometric test. In the latter a future relationship is anticipated; in the spontaneity test, the subject takes part in a real life situation (19, p. 78). As in sociometry, procedure in spontaneity testing has changed but little since 1939. Despite continued enthusiastic endorsement of the method (20) one looks in vain for validation studies. Although Florence Moreno (40) has attempted a methodological discussion of combined role and sociometric testing, we need more validation.

The sociogram. Along with the sociometric test, the sociogram is a highly important methodological contribution to social science. The sociogram is a graphic presentation of attractions and repulsions in a sociometrically tested group. The sociometric interrelations of individuals in a social group can be presented in a single chart. Terms used in interpretation of the sociogram may be found defined in sociometry's basic text (41), and in Franz's 1939 survey article (19, pp. 78-80). This technique, too, has retained its essential characteristics as it is generally employed at the present time. (63, pp. 43-70).

Two major exceptions may be noted: (1) The development by Northway (53, 54, 55) of a *target diagram*, a sociogram in which individuals are identified as frequently or rarely chosen by placement within concentric circles on the chart. Each circle represents a probability level of deviation from chance expectancy, following the calculation procedure developed by Bronfenbrenner (3). (2) A *matrix analysis* method developed by Forsyth and Katz (18). In this method individuals are grouped in terms of choice-clusters on a matrix table. Though these methods are more laborious than the more generally used sociogram, they do appear to depict more clearly "stars" and "isolates" within a social group.

A methodological limitation of the sociogram at present writing is its failure to yield inclusive numerical indices of interpersonal relationships. Zeleny (66), however, has used a matrix table form (x axis — choices expressed by, y axis — choices received) as a basis for directly computing indices of *compatibility*, *social status*, *emotional expansiveness*, and *social adjustment* (for further discussion, see "methods of quantifying sociometric data," this section). Hence the matrix analysis method yields not only a visual picture of interpersonal relations, but may serve directly as a basis

for statistical treatment of sociometric data. Forsyth and Katz (18, pp. 346-347), moreover, suggest that the matrix approach, granted its present cumbersome procedure, yields a visual presentation that is more easily grasped and more capable of duplication by different investigators manipulating the same data.

Some maintain that matrix analysis holds greater promise for future basic research than the traditional sociogram. However, the sociogram remains a useful device for quick inspection of sociometric data. It is recommended for students and workers who have an immediate and practical problem of helping a social group to function along desired lines, and whose needs are satisfied by simple, descriptive analysis of their data.

Sociometric assignment and spontaneity training. These techniques are said to hold considerable promise as aids to individual therapy through groups and to social therapy. *Sociometric assignment* is based on sociometric analysis of choice-patterns within a social group. It seeks to promote more favorable adjustments of individuals within the group and to provide a more favorable group atmosphere. SOCIOMETRY contains numerous reports dealing with restructuring of individual activity relationships within social groups, following analysis of initial sociometric patterns and diagnosis and prescription from these patterns. Definitive findings based on careful experimental-control group studies are not yet available although the method has been used by Moreno and Jennings (50). A rich contribution to knowledge of therapeutic procedure and experimental methodology could be made by a factorial design in which sociometric assignments were systematically varied in a set of experimental groups together with a systematic variation of therapeutic techniques. Effects upon individual and group of altering group structure and of different kinds of group therapy could be determined along with interaction effects.

Spontaneity training is a therapeutic technique by means of which individuals are helped to express their feelings readily, flexibly and creatively in word and action. Interpersonal and intergroup conflicts are acted out spontaneously in real-life situations. Diagnosis and treatment procedure may follow from sociometric and spontaneity testing. This technique has been described at length in the symposium on group psychotherapy (67). As with sociometric assignment, there is real need for systematic study of this technique such that different investigators could be assured of comparable results. This might well be provided within the framework of the factorial design as briefly outlined in the preceding paragraph.

The acquaintance test (41). It should precede the sociometric test and determine the number of those with whom an individual may at any one time be acquainted, the "acquaintance volume" or when expressed in number of individuals, the "social expansion". (Among acquaintances there may be many individuals who are "neither" attractions nor repulsions.) The volume of acquaintance at any particular time, for any particular individual seems to be rather definitely limited. But it may be enlarged by stimulating the individual's interest along certain lines that include types of other individuals not previously encompassed within the limits of his acquaintance. The acquaintance volumes of each individual in a particular group can be charted by means of an acquaintance diagram. After a sociometric test is applied to such a group, a graphic presentation of attractions and repulsions by means of a sociogram can be superimposed upon their acquaintance diagram, to represent their nuclear structure.

Role test (67). This determines the range of roles an individual has at a particular time. The tangible aspects of what is known as "ego" are the roles in which he operates. The test measures his role behavior and thereby may aid in revealing the degree of differentiation a specific culture has attained within him. A graphic presentation of the role relations of all the individuals in a group submitted to the role test can be given by means of a role diagram. The role diagram provides the student of a group which has already been tested as to its acquaintance and sociometric structure with further insight into its dynamic constellation.

Interaction—or act and pause test (70). By means of a chronograph the actions and pauses of a number of interrelated individuals are measured and then graphically portrayed in an action-pause and position diagram.

Process Analysis (41). It is a concurrent electric recording of a social problem in development, followed up by an analysis of its content, covering all its dimensions, temporal and spatial, verbal and actional, role and interactional, applied to research as well as to counselling processes, for instance in a psychodrama or a sociodrama (67).

Sociometrically speaking *the acquaintance test, the sociometric test, the spontaneity test, the role test and the interaction test* are constructed in order to tap in four successive steps the more inaccessible layers of the group, starting with the most peripheral and moving to the most centrally located layers. They are essential parts of sociometry and may establish diagnostic foundations for scientifically valid forms of group psychotherapy.

Although some of the techniques discussed in this section were considered "essential" parts of sociometry in 1939 (19), the publication,

SOCIOMETRY, in 1946, included theoretical discussion, descriptive case reports, and statistical—experimental papers and many other kinds of discussion. It had become unrecognizable as a journal with a fixed and selective editorial policy. In 1947, a new Moreno journal, SOCIATRY, appeared, devoted to non-experimental discussion of how to treat sick societies. In consequence, SOCIOMETRY may become more narrowly a journal of experimental research in interpersonal and intergroup relations. This delimiting of scope is probably necessary and desirable. However, Moreno's (46) distinction between *research* science—sociometry—and *therapeutic* science—sociatry—is not easily drawn. Science is a way of organizing knowledge into testable hypotheses, the verification of which lead us to the formulation of theory or law. The scientist lives in a public, as well as a private world. He is an applied and pure scientist, willy nilly. It is his obligation to communicate with others in such a way that his methods of solving particular problems can be repeated by them with comparable results.

METHODS OF QUANTIFYING SOCIOMETRIC DATA

The Index. Sociometric analysis of the choice behavior manifested by individuals in groups presents difficult problems of quantification. In the early descriptive phase of sociometry, the investigator was often content with absolute scores derived from counting choices given, choices received, mutual choices, etc. Interpretation of group structure and of individual choice status was made by inspection of the sociogram (48). The inspection method was inadequate, however, in that different observers were likely to vary in their interpretations of the data.

The *index method*, through translating absolute scores into relative measures, has made possible the quantification of individual choice relationships within and among groups, the numerical description of group structures, and the direct comparison of one group with another. Examples may be found in Lundberg and Steele's (39) indices of *interaction* and *cohesion*, Smith's (61) indices of *in-category selection*, Zeleny's (65, 66) indices of *compatibility*, *social status*, *emotional expansiveness*, and *social adjustment*, and Criswell's (13) index of *group integration*. Formulation of additional and more sensitive indices of sociometric relationships may be expected to follow as we learn to ask meaningful questions and to manipulate our data accordingly.

Caution is indicated, however, in interpreting and naming sociometric indices. Zeleny's (66) report on compatible flying partners, (though published in another journal) is a case in point. He is careful to describe the

indices mentioned above in operational terms; yet in interpreting the indices of individuals in the flight unit, he uses such terms as "happy," "pleasant," and "frustration" (66, p. 430). These feeling-states can only be indirectly inferred from his sociometric data, and must be validated against other criteria. It would be just as questionable to imply that an "extrovert," psychometrically tested, is "socially expansive" in his group, without supporting data on his actual choice relationships in the group.

Both Criswell (10, 13) and Jennings (26, 27, 28) have stated that the sociometric test is a valid sample of choice-behavior. In fact Criswell has asserted that "the patterns obtained are intrinsically meaningful and do not have to be validated by reference to outside criteria" (10, p. 76). The sociometric index is a valid criterion of choice behavior because the choosing of one's peers, either in writing or orally, is choice behavior. By itself, however, the sociometric index tells us only that individuals in groups chose or were chosen by in specified ways and in response to specified criteria of choice. The meaning of the choice behavior to individuals in a group or the function of roles in the group can be inferred only indirectly. Hence the *"intrinsic meaning" of the sociometric index must be narrowly and rigorously defined in terms of the particular behavior sampled and the operations used to measure it.* In our discussion of sociometric theory we have pointed out the inadequacy of applying the single factor method—in this case the sociometric index—to the investigation of social and psychological phenomena. Moreno and Jennings' (48; pp. 346 ff.) helpful discussion of "frames of reference" should be reread in this connection.

Perhaps this can best be illustrated by an example, which because of its importance is treated in detail. Zeleny (64), using sociometric techniques developed by Moreno, defined morale as "shared feeling of like". Using this definition, he has been able to increase morale by changing the composition of his groups. Although he does not use his operational method of describing morale on athletic teams and other social systems of this type, it can be so used. Some of the weaknesses of the method become evident when it is used to describe the morale of a hypothetical basketball team. (The reader is referred to Figure 1 and Figure 2 in Zeleny, Leslie D., "Sociometry of Morale", American Sociological Review, Volume 4, No. 8, 1939). Figure 1 is his graphic method of expressing the highest possible morale of a group of five. We may assume the group is a basketball team. Each player is represented by a circle, and the symbols between the circles represent the attitudes of players one toward another.

The morale quotient for a basketball team with the highest possible morale as indicated in Figure 1 is calculated from the formula $N \times I/T$ in which N (Equation 1) equals the number of attitudes (tensions) of "like" received by persons in a group from the other members of the same group, I stands for the average intensity of attitudes, and T equals the total possible number of attitudes of "like" which might be received. The *morale quotient* as used by Zeleny is the ratio of "likes" received (times their average intensity) to the total possible "likes" which might be received. Figure 1 illustrates perfect morale because $N = 20$; $I = 1$; (variations in intensity are ignored) and $T = 20$, equation 1 being solved as follows $20 \times 1/20 = 1$ or M , the *morale quotient*.

This useful procedure was used by Zeleny to group students in work groups. To check whether morale was increased when the number of persons who were indifferent to others or disliked others was decreased, each person was given a "group morale appraisal card." Each checked one of the statements appearing below for the four others in his group. This gave each the score indicated above the statement.

1	2	3	4	5
Experienced strong feelings of mutual dislike	Experienced mild feelings of mutual dislike	Participated without much feeling of like or dislike	Experienced mild feelings of mutual like	Experienced strong feelings of mutual like

It was assumed that if morale were perfect in the group of five, the score would be 25.

Under actual practice Zeleny proved, that he could increase morale using these quotients and scores as his criteria. He also computed a *social adjustment ratio* on the basis of whether the members of the group accepted were indifferent to or rejected each other. These various scores and quotients were highly correlated with one another when the group was represented by summation of the individuals' scores or direct calculation for the group by Equation 1 above. In certain respects Zeleny's concept of morale is that striven for in social fraternities and sororities where one vote against a candidate for membership excludes this candidate.

In ordinary life one must work with people whom one does not particularly like. Nevertheless Zeleny concludes: "In this manner, the measurement and control of morale may be carried out in any communities of groups: office communities, school communities, city communities, etc. If group morale is related to individual happiness, then perhaps happiness itself can be measured and controlled." (p. 807). This objective is

certainly a worthy one, but the difficulty of putting it into effect through Zeleny's methods would be dramatized by asking any college football team to vote on the following proposition: Should *Brown*, last year's All-American fullback, whose kicking, running and passing will make it possible to beat the college's chief rival team, play even though he is a "heel" and not liked by most of the players, or should Smith, a "good egg" whom all the men like, but who is not a very good player, be given the ~~both~~? In cooperative structures congeniality is important for morale because it is a basis for cooperation, but technical competence in the fulfillment of the responsibilities of a role is also important. Both facility at team play and the technical requirements of a position or role are important.

Figure 2 indicates the graphic expression of a morale quotient of .80. In this case no one likes the center on a basketball team, but he likes everyone else on the team. If the center gives the signals and directs the game, it is probable that the actual quotient representing morale should be lower than .80. In the case of football for instance, it would be very important to differentiate between players. If no one liked the quarterback whose role required that he call the signals this would influence morale much more than if it were the right guard whom no one likes. According to Zeleny's method of calculating the morale quotient, identical quotients would result from each of these situations. Useful as the Zeleny system may be for improving the congeniality of group life, the device does not bring in essential actors which must be considered; namely, such institutional elements of group structure as roles, authority, rights and stratification.

Tests of significance. Sociometrists in the past decade have been concerned with still another problem in the quantification of sociometric data. Apart from the meaningfulness of a sociometric index, how significant is the score obtained in the measurement of a particular relationship? More specifically: does the obtained relationship differ significantly from a relationship, calculated in the same manner, and produced by chance factors alone? Or: does the relationship obtained in measuring choice-behavior in one group differ significantly from that obtained in another group and calculated in the same manner?

At least three major attacks have been made upon the first aspect of the problem, one by Moreno and Jennings (48) in 1938, a second by Criswell (10) in 1939, and a third by Bronfenbrenner (3) in 1943 and 1944. Moreno and Jennings set up chance sociometric configurations by shuffling and drawing ballots with fictitious names and then compared the chance choices with actual choices obtained in samples of similar size. A similar

procedure was followed by Johnson (29) in studying deviations from chance expectancy in a Hi-Y group. In both experiments it seemed probable that real differences existed between chance and actual choices although tests of significance were not made.

Bronfenbrenner (3) argued for a more exact method of testing the significance of deviations between observed and expected choices. He sought to obtain a "constant frame of reference" for identifying the statistical significance of results from group to group. Following Lazarsfeld's method, the probability, p , of each individual receiving d allotted choices in a group of N subjects was computed. This p value was used as the basis for a binomial series, the mean of which was taken as the expected number of choices received in the group. The obtained number of choices for each individual could then be expressed as deviations from the theoretical mean, with probability levels for each deviation determined by reference to an appropriate statistical table. A similar procedure was followed in obtaining probability values for mutual choices.

Bronfenbrenner's contribution, while an important one, has two apparent weaknesses: (a) the calculation of p , the probability value used in the binomial expansion, can be made only when the choices that may be given are arbitrarily limited by the experimenter,⁶ and (b) assumptions are made regarding the nature of the theoretical distribution of frequencies which may not be valid for all groups studied.

Criswell's (10) approach to the problem of testing the significance of differences between observed and theoretical choice-distributions was made in the context of a race cleavage study. Her theoretical choice-frequencies are those which would have occurred had the members of one racial subgroup assigned choices to themselves directly proportional to the $N-1$ individuals in the in-group and the $N-1$ individuals in the total group. Here she has tested the significance of the difference between observed and theoretical frequencies by means of the chi-square test:

$$\text{Chi-Square} = \frac{(\text{Observed Self-Preference} - \text{Theoretical Self-Preference})^2}{\text{Theoretical Self-Preference}}$$

This is the simplest form of chi-square test. Apart from what appear to be errors in calculating chi-square and in determining the appropriate degrees of freedom from which the probability level of her obtained chi-

⁶Criswell's (13, p. 263) argument for the use of averages in the case of unlimited choice is questionable without further-evidence.

square values are determined,⁷ her contribution to experimental methodology was important, since she was able to test statistically the significance of differences between observed and theoretical distributions without having to make assumptions regarding the nature of her distributions. She may be criticized, however, for drawing erroneous inferences from her data, e.g., that one chi-square value is more significant than another (10, pp. 22 ff). Actually, chi-square does not necessarily measure degree of association but tests only "whether the observed departures from independence are or not of a magnitude ascribable to chance". (17, p. 95). If we adhere to the 5 per cent level of significance (i.e., there are only five chances or less in 100 that random fluctuation could have produced a difference as large as that represented by a given chi-square value) only four of 18 chi-square values obtained in measuring colored self-preferences (10, Table II, pp. 20-21) can be regarded as significant. Yet Criswell interprets the remaining 14 chi-squares as indicating gradations of relationship. Limited space prevents more detailed criticism of the manner in which she has interpreted her data.

A second weakness lies in the limitation of Criswell's method of answering questions relative to cleavage. One wonders why she did not test directly differences between distributions of Negro-Negro and Negro-White preferences, and of White-White and White-Negro preferences. This extension of the chi-square method, the application of which was suggested by Hagood and involving the use of a 2 by 2 table, was employed by Loomis (35) in his study of ethnic cleavages in the Southwest. Using this method, he was able to compare directly the distributions of in- and out-group preferences for Spanish-American children and for Anglo-American children. Observed frequencies of choices were compared with theoretical choices calculated on the basis of the proportions of choices that would have fallen in each cell of the 2 by 2 table had these been allotted by chance alone.

The chi-square method is particularly applicable to the study of cleavage. Its extension to an experiment involving more than two sub-

⁷For example, in Table II of her study (10, pp. 20-21), she has apparently added together individual theoretical frequencies of choices for rooms in which her N's are small and has independently added together the individual o-c values for each room. $[\Sigma(o-c)]^2/\Sigma c$ is then interpreted, apparently, as chi-square for the group of rooms with one degree of freedom. Moreover, in the same table (p. 20), she reports a probability of .93 for a chi-square of .17—this could only hold for 2 degrees of freedom. Unfortunately, her rationale for determining degrees of freedom has not been made clear.

groups is illustrated in a study by Loomis and Davidson (37) of three conflicting factions in a rural resettlement project. In this experiment two kinds of theoretical distributions were derived, one based on the proportional numbers of families in each sub-group that might be expected to visit in own group and in the other two groups by chance, and the other based on the expected distribution of visits within each cell. An important correction was made in computing theoretical choice-frequencies based on the restriction that no family within a group could visit itself. In a later study by Loomis (36) of political networks in a German community, analyses were made of the visiting relations of Nazis, Socialists, Communists and "other" families. Here the additive nature of chi-square was utilized following the suggestion of Hagood, in determining the direction of each in-group's relations with itself and with the other three groups. A more inclusive test of the hypothesis regarding cleavage might have been made by means of a direct comparison of the four categories in a 4 by 4 chi-square table. Finally, another application of the chi-square method as a test of significance has been suggested by Criswell (13) in testing for group integration.

We may conclude our survey of tests of significance with notes on a correlation approach and an attempt to utilize the analysis of variance technique. In 1939, Loomis (34) described an experiment in which pairs of associating families, pairs of near-by non-associating families, and families paired by random selection, were correlated with respect to personal characteristics and activities. Of 39 correlations only 6 were greater than .12, indicating that association (i.e., visiting, exchanging work and borrowing tools) did not vary systematically with similarity of personal characteristics and activities in the population samples which he was investigating.

Seeman (60) used the analysis of variance method to study mean differences of Negro sub-groups on the Ohio State Social Acceptance Scale. Negro students in two "interracial" fifth grade classes were divided into five sub-groups on the basis of skin pigmentation ranging from a rating of "very dark brown" to "very light brown". Using this breakdown, he was able to compare the ratio of "among groups" to "within groups" variances. This highly provocative study has been criticized by Criswell (12) in that Seeman's subgroup N', were small and in that he failed to "fractionate" his Negro and White groups into males and female sub-categories. Though Seeman might have increased the precision of his findings by a more extensive breakdown of the total variance, a more basic criticism may be directed at his failure to test for the homogeneity of

"within sub-groups" variances.⁸ Until we know whether this crucial assumption has been satisfied, we cannot validly test for differences among sub-group means. Nevertheless, Seeman has made an important contribution to experimental methodology in the field of sociometry. Keller (31) has convincingly demonstrated the applicability and usefulness of a carefully planned factorial design in a study of factors associated with "leadership" as defined in terms of a sociometric criterion, although he did not attempt to analyze the criterion variance as Seeman has done. As we have already indicated, there is need for planned and systematic factorial design studies of inter-group and inter-personal choice patterns.⁹

Reliability. For a discussion of this phase of sociometric methodology, we must draw largely from outside the journal, *SOCIOMETRY*, although at least four reports in the journal bear directly upon it. One of first of these, written by Jennings (23) and published in 1937, deals with a group retested at eight week intervals over a period of $2\frac{1}{2}$ years, and showed an apparent stability of choice-structure. A second study by Criswell (11) in 1939 indicated that only 38 per cent of 216 pupils in a New York public school retained the same choices after a six week interval. Yet her analysis in terms of an inspection of percentages showed what appeared to be a "relatively" stable sociometric pattern.

In 1941, Zeleny (65) reported that "social status was consistently maintained by students in a college class in Sociology to the extent of a test-retest correlation of .91 (although he does not specify the time interval between tests). The test-retest reliability for a group of "adults" was .98; and for a group of 24 grade school pupils it was .79. Bonney (2) obtained reliability coefficients ranging from .67 to .84 for second, third and fourth grade pupils retested after one year. His use of percentage in deriving correlation coefficients, however, introduces considerable possibility of error into his calculations.

Other publications point to the stability of choice-status. Newstetter, Feldstein and Newcomb (52), in 1938, reported reliability coefficients averaging .95 for choice of tent-mates at a summer camp, with tests administered during four successive weeks. Zeleny (64) cited test-retest

⁸For example, it would be meaningful to break down the "within groups" (error) variance into *inter-* and *intra-*individual choice-patterns.

⁹Factorial design studies deal with variance and covariance attributable to known factors. Dr. Leo Katz proposes the factor analysis of sociometric data—the search for unknown factors, using matrix tables (See also Forsyth and Katz (18) and Katz (30)).

coefficients ranging from .93 to .95 for students in a college class retested on successive days. Jennings (26, p. 31) stated in 1943 that she had obtained a coefficient of .96, for positive choices, and one of .93 for rejection, for a house-unit of delinquent girls retested after a four-day interval. These calculations, however, were "based on gross number of reactions given by the individual towards others on the two occasions." Using the same method on 133 adolescent girls retested after an eight-month interval, she obtained a correlation of .65 for positive choices, and one of .66 for negative choices.

Among these published findings, the 1943 report by Jennings is outstanding for its careful qualification of results and definition of terms. Her discussion of the concepts of reliability and validity (26, pp 27-31) is particularly good. She cautions that unusually high test-retest coefficients based on an extended time interval (i.e., months or years) might indicate that the test was invalid in that it "had not 'caught' the flux of psychological reactions between individuals which are ever in process of development." (26, p. 29). Similarly, a retest after a short time interval (i.e., a few days) might be spuriously high because of the subjects' memories for previous choices made.¹⁰

It is regrettable that none of these writers has explicitly stated the extent to which assumptions underlying the use of correlation techniques have been satisfied. Homoscedasticity and rectilinearity of regression (assumptions underlying the use of the product-moment method of calculation) have more than academic meaning when results are presented and discussed. One wonders whether as a general rule, bivariate sociometric distributions have "normal" correlation surfaces and are in straight-line relationships. Yet the fulfillment of these assumptions has direct bearing upon the validity of the obtained correlation coefficient as applied to a particular set of data.

Some Promising Leads

It is probably inappropriate to single out "promising leads" in a general methodology noteworthy for the creativeness and ingenuity which have gone into its development. The purpose of this discussion, however, is to point up several investigations which have incorporated sociometric method in particularly novel ways. A study peripheral to sociometry,

¹⁰A paper by Pauline N. Pepinsky, "The Meaning of 'Reliability' and 'Validity' Applied to Sociometric Tests," (to be published in *Educational and Psychological Measurement*, Vol. 9, No. 1, 1948) points up the fallacy of applying uncritically traditional psychometric concepts to sociometry, and calls for concepts appropriate to the new context.

following Moreno's original studies of act and pause relations (70) and bearing directly upon the study of interpersonal reactions is that of Sargent, Uhl and Moreno (59) describing an experiment involving 12 "difficult" cases and 16 controls in an institution for the mentally ill. Stop watches were used to determine the length of eating performances. Duration of the "starting interval", the "act" of eating a portion of food, and the pauses between eating acts were measured. "The performance pattern from day to day enables the physician and nurses to diagnose the present condition of the patient and to foresee and predict certain specific changes in his conduct" (pp. 56-57). Though tests of significance were not applied to the data, charts of daily performance patterns appeared to reveal interesting differences between experimental and control groups. It is to be hoped that these "acts" of daily living can be observed in relation to sociometric and psychometric test results.

In studies previously cited, Moreno and Jennings (49) have reported on the use of "time" spent in interpersonal relations; Moreno (42) has suggested a psychodramatic approach in "testing" social investigators in real life situations prior to actual community research, and Florence Moreno (40) has described an experiment "combining role and sociometric testing." These articles have been exploratory and suggest a broadening of experimental design which should prove highly useful to the social investigator. The studies of Zeleny (65), Bonney (2), Kuhlen and Bretsch (32), and Northway and Wigdor (57) of relationships among psychometric and sociometric test data are also significant contributions to the breadth of social investigation.

Another important lead is the study by Moreno and Jennings (71) in 1935 of authoritative, democratic and laissez faire groupings which were later further explored by Kurt Lewin and associates (72).

We may also note the contributions of Barker (1) and Infield (21). Infield made use of a "group biographical interview" in "warming up" a veterans' rural resettlement group for sociometry. Barker found that strangers meeting for the first time in a classroom deviated significantly from "chance" pattern in their sociometric relationships and that these patterns in their sociometric relationships tended to persist after a period of acquaintanceship in the classroom. The former contribution is important as a method of breaking down hostility barriers to sociometric testing. Barker's contribution is equally important in suggesting that account should be taken of apperceptions brought by individuals to new group situations—a caution to be applied in the interpretation of results involving pre- and post-sociometric testing.

In concluding this discussion of promising leads as revealed in sociometric literature from 1937 to 1947, two recent lines of research should be mentioned. One development involves awareness of sociometry's potentially rich contribution to the analysis of social status, especially of class and caste. A beginning has been made by Loomis, Beegle, and Longmore (38) who have provided a framework for using sociometric techniques in testing Warner's six-fold class hypothesis. A second development involves Loomis' attempt to synthesize sociometric research with the interaction studies of Chapple, Arensberg and their associates (6). For students of sociometry who have been seeking to provide additional, communicable means of describing "stars", "isolates", and others on sociograms, this is an important line of inquiry and will be considered at some length.

Historically this line of inquiry goes back to Moreno's "action-pause" diagrams, described in the *Theater of Spontaneity* (1923). The second person to work on the development of action diagrams and the measurement of interaction currents was Lowell Carr (1929). Chapple, with some modifications of his own, has continued these investigations.

Using operational methods, Chapple, Arensberg, and their collaborators (5) have provided a technique for demonstrating the extent and manner in which individuals are limited in ability to adjust to others. Deviant individuals in particular, are shown to be seldom able to cooperate with others. By careful analysis of interruptions, failures to respond, and failures to synchronize responses to those of an interviewing psychiatrist, neurotics and psychotics were shown to have distinctive interaction patterns in the psychiatric interview. Indeed Chapple and his associates believe that their method of analysis provides a more accurate basis of diagnosing and classifying various types of neuroses and psychoses than methods more commonly used. As in the case of feral men and the feeble-minded, these deviants manifest inability to respond to others or to elicit response in "normal" ways.

Using a chronograph, Chapple, Arensberg, et al., have devised a means of studying certain aspects of cooperation as revealed in individual interaction patterns recorded on a tape. Mathematical analysis of these patterns reveals that individuals develop in conversation their own patterns of response and response-provoking activities. These patterns appear to be relatively stable throughout life. For example, almost everyone has watched two customarily talkative persons attempting to interact in conversation. If both habitually talk for long periods with infrequent pauses, their interaction pattern might be recorded on Chapple's machine as follows:

A _____
B _____

Obviously this conversational pattern permits neither communication nor cooperation. An analogous situation would be that involving two men who cannot operate a cross-cut saw effectively because each tries to pull toward himself at the same time. An extension of this analogy to include more than two persons might include a football team of all-stars, all trying to carry the ball or otherwise to be in the lime-light at the same time. If the two conversationalists, the wood-sawers, or the football stars were together long enough, some adjustment might be worked out to provide for cooperative interaction.

Conversation, then, is merely one of many possible modes of interaction, useful because it is more conveniently analyzed. Moreover, it is a universal form of interaction, usually carried on while other types of interaction are going on, and preceding and following such activity.

Since people do develop stable interaction patterns, it is not surprising that an individual who is forced to alter greatly his habitual pattern reflects tension in what seems to be neurotic and even in psychotic behavior. A change in status or roles which results in having to work intimately with persons who have very different patterns of interaction from those to which an individual is accustomed, may force him to alter his own interaction pattern. Extreme alteration, then, may result in other kinds of noticeably deviant behavior.

If conversation is accepted as a universal interaction pattern, and if each individual in a group has characteristic and unique patterns of conversation in the group, we may well have important clues to individual personality. Such clues derive from the length of time the individual talks before becoming silent, and from the periods of time he is silent. Equally important, however, is the claim of Chapple and his associates that these interaction patterns will vary somewhat according to the group in which individuals are being observed.

This simple form of interaction study constitutes a basis for the analysis of congeniality, which has been assumed to be a minimum requirement for the development of cooperative systems. If people did not learn to control their contributions to discussion, to minimize interruptions of equals by equals—in other words to “give and take” in conversational activity—there could probably be but little cooperative activity. Chapple and Coon’s (7) description of personality provides an operational basis for measuring cooperative, socialized behavior in groups:

"Personality depends on a combination of variables: (1) the amount of interaction which a person requires, (2) the frequency of his habitual interactions, (3) his origin-response ratios, (4) the rhythm of his interaction rate, and (5) his ability to synchronize, or adjust, to others". (7, p. 69).

We think that the Chapple-Arensberg chronograph offers further opportunity to give depth to sociometric analysis. Let us assume with these investigators that time is a property common to all groups, which by definition are composed of interacting individuals. We may then hypothesize that individuals who are permitted by the group to have special or exceptional privileges in the disposal of time in the group, will have special status or roles, as indicated by sociometric charts. In this connection, the "origin—response ratios" of leaders, as determined by sociometric tests, should be a fruitful area of study.

A serious limitation in the Chapple-Arensberg chronograph is its failure to record the *content* of interaction.¹¹ Although the approach of these investigators is open to criticism, their assertion that a leader is one who can get others to do his bidding or to whom others come for permission to act provides a useful working hypothesis. Whether the chronography always measures this kind of leadership may be questioned, but the methodology is certainly a "promising lead" in the analysis of sociometric findings.

SUMMARY AND CONCLUSIONS

In this paper, contributions to sociometric theory and method have been examined. Publications in *SOCIOMETRY* have greatly enriched both our knowledge and understanding of social relationships and have contributed materially to our store of techniques for the investigation of interpersonal and intergroup phenomena. The authors have repeatedly cautioned against doctrinaire acceptance of assumptions both explicit and implicit to sociometric theory, on the one hand, and have urged for a more rigorous and systematic formulation of assumptions and hypotheses, on the other. Again, while according praise to the many pioneers in sociometric methods, the authors have repeatedly urged that measurement techniques be critically evaluated with due regard to the nature of the data being analyzed.

These results will not be achieved by a refuge into obscurantism. Ideas so complex and terms so esoteric that they can have meaning only for the

¹¹Promising research in content analysis is being conducted, e.g., at the Harvard Department of Social Relations and the Michigan Research Center for Group Dynamics.

"initiated" few create barriers to communication with workers in related areas. Sociometrists have committed themselves to the promotion of interdependence among investigators as well as the objects of investigation. It is hoped that future editorial policy of THIS JOURNAL will include a demand for (1) greater clarity of expression; (2) careful statements of purpose, assumptions and hypotheses; (3) inclusion of more basic data (e.g., N's, "sums", "sums of squares", and "sums of cross-products") so that calculations might be repeated or modified by other investigators; and (4) more explicit statements of how data were processed.

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Society, Culture, and Personality: Their Structure and Dynamics. By Pitirim A. Sorokin. New York: Harper & Brothers, New York 1947. Pp. 700.

This book is important for sociometricians not only because it "attempts to present a system of sociology as a generalizing science of sociocultural phenomena possessing its own set of referential principles, its own meaningful-casual method, and its own special task among the other social and humanistic disciplines." Here Sorokin achieves an integration of the concepts of Moreno and other sociometricians and they are related to the total system of sociological knowledge in a manner never before accomplished.

With this volume Sorokin reintroduces his famous trilogy and familistic, contractual and compulsory types of relationship. However, he has introduced a minor variation in that he calls the contractual form, a mixed type. Most of the basic materials of *Social and Cultural Dynamics* are presented with perhaps relatively more attention given to personality than in previous writings. New materials are comparisons of the Sorokian system with and criticism of the systems of Toynbee and Kroeber.

A very good critique of Toennie's types, Gemeinschaft and Gesellschaft is given. As indicated by the lead article in this issue of *SOCIOMETRY* this reviewer does not find Sorokin's trilogy a continuum ranging from familistic on one extreme through contractual to the compulsory relationship on the other extreme. On many continua, depending on one's frame of reference, one of the types must be mixed. On only three of the continua describing hierarchical relations namely, one way vs. two way; voluntary vs. antagonistic and solidary vs. antagonistic does the contractual form fit in this intermediate (mixed) place. By combining Sorokin and Toennies the familistic Gemeinschaft vs. contractual Gesellschaft continua is the continua which is found to be most relevant to concrete situations in modern organizations. For the three continua mentioned above the range may be between familistic Gemeinschaft to compulsory Gesellschaft with the (mixed) contractual form in between. In other considerations the contractual form is not always mixed but may be the most meaningful ideal type at one end of a continuum with familistic Gemeinschaft at the other end.

The seven parts of the book are: 1) Sociology: Its Object, Method and Development; 2) Structural Sociology; 3) Structure of the Social Universe; 4) Social Differentiation and Stratification; 5) Structures of the Cultural and Personality Aspects of the Superorganic Universe; 6) Dynamics of the Recurrent Social Processes; 7) The Dynamics of Cultural Processes.

Since the author's *Social Mobility* has been out of print for some time students will be glad to learn that many of its basic data are included here.

Actually one of the high spots in the book is what he calls a "Constructive Analysis of Social Class," and the preceding discussion. The treatment of social stratification is far superior to most presentations but in his merciless criticism of the Warner school, Sorokin fails to point out that the latter group through studying how people who consider themselves as "equals" associate really attempts, to describe what Sorokin calls a social class. It is what Sorokin defines as follows:

"It is (1) legally open, but actually semiclosed; (2) "normal;" (3) solidary; (4) antagonistic to certain other groups (social classes) of the same general nature, X; (5) partly organized but mainly quasi-organized; (6) partly aware of its own unity and existence and partly not; (7) characteristic of the western society of the eighteenth, nineteenth, and twentieth centuries; (8) a multi-bonded group bound together by two unbonded ties, occupational and economic (both taken in their broad sense), and by one bond of social stratification in the sense of the totality of its essential rights and duties contrasted with the essentially different rights and duties of other groups (social classes) of the same general nature, X." (p. 271)

If the ranking of members of cliques, families and associations into classes by the Warner group do not constitute classes, it is more due to faulty execution than to faulty principles. In Sorokin's own procedures, classes would be composed of people who considered themselves near equals. Within his classes more than outside or across class lines people would do together the things which equals do, such as marry, engage in intimate and friendly visits in one another's homes, etc.

Of great importance to readers of SOCIOMETRY is the discussion of "Pluralism of 'Selves' in the Individual as a Reflection of the Pluralism of Groups" in which there is a convergence of Sorokin's system and sociometry, much to the improvement of the latter particularly among those with leanings toward psychiatry. In the sociometric field his presentation runs as follows:

"My thesis is that the individual has not one empirical soul, or self, or ego, but several: first, biological, and second, social egos. The individual has as many different social egos as there are different social groups and strata with which he is connected. These egos are as different from one another as the social groups and strata from which they spring. If some of these groups are antagonistic to each other, then the respective egos that represent these groups in the individual will also be antagonistic." (p. 345)

Also Sorokin continues:

"The 'family self' of an individual contrasts both in mentality and action with his 'occupational self'; both these differ from his 'religious' and 'state-citizenship' selves," (p. 348)

"In general, each of us has as many 'social egos' as there are social groups to which we belong. Personal experience and daily observation amply corroborate these generalizations. When we interact with our family we think, feel, and behave like father, mother, sister, brother, son, or daughter. Our ideas, standards, emotions, volitions, as well as our overt actions, are of a certain kind well known to all of us. When we discontinue our interaction with the family, and go to our place of work with our occupational group, our 'family ego' disappears and our 'occupational self' takes its place. Our conduct is determined by the occupational ego, and there accordingly result the actions of a professor, engineer, doctor, senator, plumber, carpenter, or farmer. . . . Every individual is like an actor incessantly playing different roles in his life process. . . . (p. 348) The diversity of our social roles is due to the fact that we belong to a plurality of organized groups." (p. 349)

Following this line of reasoning he attacks the Freudians as follows:

"This means simply that the biological ego is composed of the nutrition-ego, self-protection ego (reflective running from a dangerous animal, jumping away from a honking car, etc.), sex-ego, and so on."

"It is hardly necessary to state that all these bugaboo-paintings of biological ego are mainly degrading fairy tales. As a matter of fact, the biological egos are neither irrational nor rational, neither anti-social nor social. Their relationship to the social egos of a person are much more complex than these theorizers contend." (p. 347)

From the social role as above described or the "soul" Sorokin posits the "Creative X" which he says is not unlike Moreno's . . . , "spontaneity creativity" (p. 356). In several other connections he refers to the "mystery" of creativity and cites Moreno's spontaneity theory. (pp. 539 and 561)

Bringing together as he does parts of all his works with empirical findings and theoretical ordering Sorokin will amaze those unacquainted with both the volume and range of his empirical works and the consistency of his frame of reference.

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Michigan State College

ANNOUNCEMENTS

American Sociometric Association

a) Election of Committee Chairmen for 1948-1949: Research—Julius B. Maller; Qualifications—Raymond E. Bassett; Membership—Joan H. Criswell; Editorial—Charles P. Loomis.

b) "The American Sociometrist," will be published every May as a Yearbook. Send manuscripts and inquiries for this volume to the Editorial Chairman for 1949, Charles P. Loomis, Head of Department of Sociology and anthropology, Michigan State College, East Lansing, Michigan. The yearbook will contain the proceedings of the Association, reports of annual and local meetings, and articles on sociometry by members.

c) Annual Meeting: The forthcoming annual meeting of the Association will take place during the Easter vacation. Further details will be announced to members directly.

d) New Applicants for Membership: Yvonne Braendli; Katherine Coursey; James M. Enneis; Elizabeth Freidus; Henrietta Fleck; F. L. Kunz; Ronald B. Levy; S. Martin Samit; Milton H. Ward.

Sociometry in the United States

Sociometry is here considered in the broadest sense of its theoretical and practical developments. It includes all the instruments which have been initiated and systematically used by sociometrists; not only the sociometric test but also the acquaintance test, the spontaneity test, the role test, the diagnostic psychodrama and the diagnostic sociodrama.

The American Council on Education 744 Jackson Place, Washington, D. C., has just released "Sociometry in Group Relations," by Helen Hall Jennings, in association with the staff of Intergroup Education in Co-operating Schools, Hilda Taba, Director. The book presents the uses, applications, and results of sociometric work in public schools in eighteen cities throughout the country during the period January 1945 to September 1948. Price \$1.25, pp. 84, charts and sociograms 11.

The Catholic University of America Press has published "A Sociometric Study Among A Selected Group of Students in Nursing," by Sister M. Theophane Dwyer. The Journal of Consulting Psychology, July-August 1948, contained an article on "The Consistency and Generality of Ratings of 'Social Aggressiveness' Made from Observation of Role Playing Situations" by Julian B. Rotter and Delos D. Wickens. The journal Educational and Psychological Measurement, Vol. 9, No. 1, 1948, contains an article by Pauline N. Pepinsky, "The Meaning of 'Reliability' and 'Validity' Applied to Sociometric Tests". In the January 1949 issue of the Bulletin of the Menninger Clinic Sidney Haber, Aaron Paley and Arnold S. Block report on the "Treatment of Problem Drinkers at Winter Veterans Administration Hospital" (use of Psychodrama).

Literature on Sociometry from Abroad

Reports of sociometric work and reactions to sociometry have come to our attention in an increasing measure. Since the end of the war sociometry has spread to all continents. It has become increasingly difficult

to keep abreast of all publications dealing with it and we would appreciate being informed of new developments in foreign countries. Readers interested are referred to the following: "Psychologie Militaire" by Paul Maucorps, published by Presses Universitaires de France, 1948; see especially the chapter on Methodes Sociometriques, pp. 98-99. *Labour Research*, London, England, Vol. XXXVII, No. 7, July 1948, section on "Management and the Human Factor", pp. 124-125. *Koelner Zeitschrift fuer Soziologie*, Vol. 1, No. 1, Koeln, Germany, article by Leopold von Wiese on "Soziometrik", pp. 23-40. *Huszadik Szazad*, Vol. 36, No. 4 and 5, August-September and October-November, Budapest, Hungary, articles by K. Janos, "A Szociometria", pp. 287-291, and by F. Tibor, "Szociometria es Okonometria", pp. 353-356. The *News*, May 1947, published by the National Institute of Industrial Psychology, London, England, contained a section "Problems of Human Relations in Industry", pp. 2-3. *Sauvegarde*, November-December 1947, published by the Associations Regionales Pour La Sauvegarde de l'Enfance et de l'Adolescence, Paris, France, articles by J. Moreau-Dreyfus and S. Lebovici, "La Psychoterapie Collective de l'Enfant", pp. 17-34; by Mireille Monod, "Le Psychodrame de Moreno", pp. 35-49; by Mireille Monod, "Premiere Experience Francaise sur le Psychodrame", pp. 50-55. *The Medical Journal of Australia*, Vol. II, No. 17, October 23, 1948, published in Sydney, Australia, "Psychodrama", pp. 497. "L'Inconscient", by Jean C. Filloux, published by the Presses Universitaires de France, Paris, 1947.

Foreign Developments in Sociometric Work

The Centre d'Etudes Sociologiques of the University of Paris has approved a research project by Drs. Maucorps and Schutzenberger to study social relations in the French Army and Navy by sociometric methods.

The University of Toulouse in France is setting up a sociometric unit for researches in sociometry.

New Books Received

"Training Employees and Managers", by Earl G. Planty, William S. McCord, and Carlos A. Efferson, published by The Ronald Press Company, New York City, 1948, clothbound, pp. 278, price \$5.00. "Resolving Social Conflicts", by Kurt Lewin, Edited by Gertrud Weiss Lewin, published by Harper & Brothers, New York City, 1948, clothbound, pp. 230, price \$3.50. "Studies in Psychosomatic Medicine", by Franz Alexander and Thomas M. French, et al, published by The Ronald Press Company, New York City, 1948, clothbound, pp. 568, price \$7.50. "Introduction a la Criminologie", First volume, by Etienne de Greeff, published by the Presses Universitaires de France, Paris, 1948, paper bound, pp. 414.

Wesley C. Mitchell

We regret the death of the distinguished economist Dr. Wesley C. Mitchell, who was one of the earliest subscribers to this journal. Dr. Mitchell was interested in the relation of sociometry to econometric problems and served as contributing editor of *SOCIOMETRY* since 1942

PSYCHODRAMATIC INSTITUTE OF THE MORENO CLINIC

*Part Scholarships Available
Special Rates for Veterans*

The Institutes of Beacon and New York have organized facilities for the enrollment of one hundred students for the course during the coming year. All students are to receive instruction and training in sociatry, socio- and psychodrama, sociometry and group psychotherapy, covering among others, the fields of: Nursery School, Child Guidance, Public School Education, Juvenile Delinquency, Speech Disorders, Intercultural Relations, Leadership Training, Family and Marriage Problems, Music Therapy, Therapeutic Films, Rehabilitation of the Returned Soldiers and their Families, Political and Labor Conflicts, Community and Religious Problems.

The objectives of the program are: (a) Training of directors of psychodrama, sociodrama and group psychotherapy in the conducting of sessions; (b) Training auxiliary egos (therapeutic and research actors), of group interviewers and group lecturers; (c) Training of social analysts in clinical and actual situations; (d) Seminars covering the fields of psychodrama, sociodrama, sociometry, group psychotherapy and therapeutic motion pictures; (e) Research and field projects in psychodrama and group psychotherapy, with study of methods and analyzing and classifying psychodrama, sociodrama and sociometric materials.

Teaching and training will be given jointly at the auditorium of the New York Institute and at the Therapeutic Theatre of the Moreno Clinic.

Students fall under two categories: Category A: The Beacon Group-Enrollment in this group is limited to 30 students. Classes and session begin on June 1st and last for 5 months, until October 31st. Students of this group receive their room, board and training at the Psychodramatic Institute at Beacon, New York. The fee for students of this group is \$60.00 per week, \$240.00 for a four weeks' stay. Directorial work is part of the training of this group. Application for enrollment in this group should be in our hands by May 15th, with registration fee of \$5.00. Members of the Beacon group may attend New York sessions at a small additional expense.

B: The New York Group-Students live in New York (those who have private residence) or commute from out of town and attend the classes at the New York Institute at 101 Park Avenue. These courses may be

arranged throughout the year. For this group sessions and classes are given 3 times a week in the late afternoon and evening, so that they are able to pursue a professional occupation during the day, or other academic studies. The full enrollment capacity of this group is 80 students. The weekly tuition fee is \$20.00, the fee for a 12 weeks' course is \$240.00; with additional training in directorial capacity the fee runs to \$360.00. There are a number of half scholarships available. Students who qualify for and obtain such scholarships pay half the tuition for the 12 weeks' course, \$120.00 and \$180.00 respectively. New York students may attend week-end sessions at Beacon, N. Y., staying at the Beacon Institute for the week-end if room is available, for an additional fee. Such a week-end training is meant especially for students interested in directorial techniques and work with mental patients. All students are required to pay a registration fee of \$5.00 in advance.

J. L. Moreno, M. D., Director of the Psychodramatic Institute in Beacon and New York City, assisted by a staff of instructors, will conduct the seminars and sessions. Students will be permitted to use the library at the Psychodramatic Institute. Every student is expected to formulate and work out a research project related to his own field of application, under guidance. Upon completion of the course every student will obtain an official acknowledgement from the director as to the duration of the course and the accomplishments of the student.

Students interested in training courses may file their application at any time.

In the course of the training period several three-day, holiday week-end conferences take place. Arrangements can be made for the Conferences independently from the training course. Fee for room, board and attendance of all sessions: \$35.00. For further information write to: Moreno Clinic, Beacon, New York.

ENROLLMENT CARD FOR STUDENTS

PSYCHODRAMATIC INSTITUTE

I enroll for a _____ weeks training course at

Beacon, New York

from _____ till _____

_____ and enclose herewith the registration fee of \$5.00.

Name, in full (please print) _____

Address _____

Fill in, tear off and mail to Moreno Clinic, Psychodramatic Institute,
Beacon, New York